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FLOOD INSURANCE STUDY

CITY OF INDIANAPOLIS, INDIANA

MARION COUNTY

VOLUME 1 OF 2

COMPLETED

REVISED:

JUNE 3, 1988

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Federal Emergency Management Agency

COMMUNITY NUMBER - 180159

ORIGINAL

NOTICE TO
FLOOD INSURANCE STUDY USERS

Communities participating in the National Flood Insurance Program have established repositories of flood hazard data for floodplain management and flood insurance purposes. This Flood Insurance Study may not contain all data available within the repository. It is advisable to contact the community repository for any additional data.

This publication incorporates revisions to the original Flood Insurance Study. These revisions are presented in Section 9.0.

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Flood Boundary and Floodway Map Index
Flood Boundary and Floodway Map

PUBLISHED SEPARATELY:

Flood Insurance Rate Map Index
Flood Insurance Rate Map

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FLOOD INSURANCE STUDY

CITY OF INDIANAPOLIS,
MARION COUNTY, INDIANA

1.0 INTRODUCTION

1.1 Purpose of Study

This Flood Insurance Study investigates the existence and severity of flood hazards in the City of Indianapolis, Marion County, Indiana including the Cities of Beech Grove, Lawrence, and Southport, and the Town of Speedway, henceforth known as the City of Indianapolis, Indiana, and aids in the administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. This study will be used to convert the City of Indianapolis to the regular program of flood insurance by the Federal Emergency Management Agency (FEMA). Local and regional planners will use this study in their efforts to promote sound flood plain management.

In some states or communities, flood plain management criteria or regulations may exist that are more restrictive or comprehensive than those on which these Federally-supported studies are based. These criteria take precedence over the minimum Federal criteria for purposes of regulating development in the flood plain, as set forth in the Code of Federal Regulations at 44 CFR, 60.3. In such cases, however, it shall be understood that the state (or other jurisdictional agency) shall be able to explain these requirements and criteria.

1.2 Authority and Acknowledgements

The sources of authority for this Flood Insurance Study are the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973.

The hydrologic and hydraulic analyses for this study were performed by the U.S. Army Corps of Engineers (COE), Louisville District, for the Federal Emergency Management Agency, under Inter-Agency Agreement No. (IAA)-H-7-76, Project Order No. 7. This study was completed in August 1979.

1.3 Coordination

Streams requiring detailed study were coordinated with the State of Indiana and officials of the City of Indianapolis, (Marion County). Results of the hydrologic analyses were coordinated with the Indiana Department of Natural Resources, Division of Water.

On March 31, 1983, the results of the work by the Study Contractor were reviewed and accepted at a final coordination meeting attended by representatives of the Study Contractor, FEMA, and the community.

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2.0 AREA STUDIED

2.1 Scope of Study

This Flood Insurance Study covers the incorporated area of the City of Indianapolis, Marion County, Indiana, including the communities of Lawrence, Southport, Beach Grove, and Speedway. The area of study is shown on the Vicinity Map (Figure 1).

The areas studied by detailed methods were selected with priority given to all known flood hazard areas and areas of projected development or proposed construction through August 1984.

Approximate methods of analysis were used to study those areas having a low development potential or minimal flood hazards as identified at the initiation of the study. The scope and methods of study were proposed to and agreed upon by FEMA and the City of Indianapolis.

The limits of detailed and approximate studies in the City of Indianapolis and the Marion County communities were determined by community and Study Contractor consultation.

Floods caused by the overflow of streams within Indianapolis were studied in detail. The streams studied in detail are shown in Table 1.

2.2 Community Description

The City of Indianapolis is located in central Indiana, approximately 180 miles southeast of Chicago, Illinois; 110 miles north of Louisville, Kentucky; 106 miles northwest of Cincinnati, Ohio; and 235 miles east of St. Louis, Missouri. The city is surrounded by the Counties of Hamilton and Boone to the north, the County of Hendricks to the west, the Counties of Morgan and Johnson to the south and the Counties of Shelby and Hancock to the east. The communities in Indianapolis (Marion County) are serviced by the Interstate Highway system with Interstate Highways 70, 74, and 65 meeting within Marion County. The 1980 census of population for the City of Indianapolis and its communities (Reference 1) is as follows:

Community	1980 Population
City of Indianapolis	700,807
City of Beech Grove	13,196
City of Lawrence	25,591
City of Southport	2,266
Town of Speedway	12,641

The early years of Indianapolis and Marion County were primarily concerned with the settlement and development of the new capitol, Indianapolis, out of almost total wilderness. As the railroads and roadways developed during the 1850's, the city emerged as the marketing and service center of the extensive agricultural area surrounding Indianapolis and Marion County. In the last 20 years of the 19th century and the early part of the 20th century,

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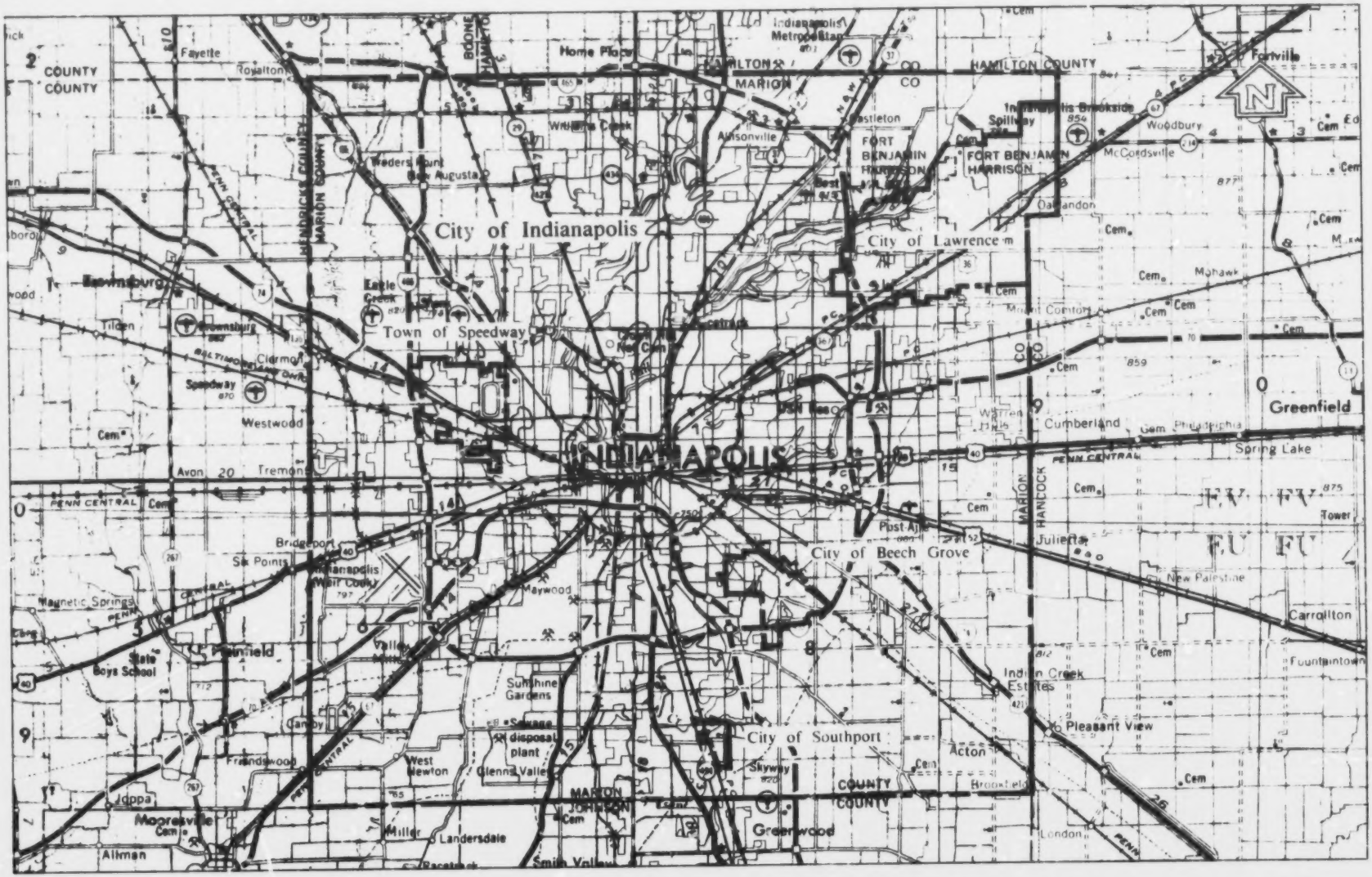

FIGURE 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

APPROXIMATE SCALE

4 0 4 8 12 MILES

VICINITY MAP

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TABLE 1: FLOODING SOURCES

FLOODING SOURCE	DESCRIPTION OF STUDY LIMITS	
	FROM	TO
DETAILED FLOODING SOURCES		
Bailey Creek	the mouth at Howland Ditch	Olney Street
Bean Creek	the confluence with Pleasant Run	about 0.28 mile upstream of Minnesota Street
Beech Creek	the confluence with Lick Creek	the confluence of Churchman Creek
Buck Creek	within the City of Indianapolis corporate limits	
Buffalo Creek	County Line Road	Stop 11 Road
Camp Branch	the mouth at Howland Ditch	about 0.22 mile upstream
Carmel Creek	the mouth at White River	96th Street
Churchman Creek	the confluence with Beech Creek	the confluence of Sloan Ditch
Crooked Creek	the mouth at White River	just upstream of Interstate Highway 465
Delaware Creek	the confluence with Crooked Creek	just upstream of Interstate Highway 465

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TABLE 1: FLOODING SOURCES (Cont'd)

FLOODING SOURCE	DESCRIPTION OF STUDY LIMITS	
	FROM	TO
DETAILED FLOODING SOURCES		
Devon Creek	the mouth at Fall Creek	Brown Road
Dry Run	the confluence with Little Eagle Creek	46th Street
Dry Run Diversion Ditch	the mouth at Little Eagle Creek	divergence from Dry Run
Eagle Creek	the confluence with White River	about 300 feet upstream of Interstate 74
Falcon Creek	the confluence with Little Eagle Creek	about 0.66 miles upstream of 46th Street
Fall Creek	the confluence with White River	Geist Reservoir Dam
Fisher Creek	the confluence with Lick Creek	northbound Interstate Highway 465
Grassy Creek	the confluence with Buck Creek	about 250 feet upstream of 25th Street
Guion Creek	the confluence with Little Eagle Creek	3.25 miles upstream
Howland Ditch	the mouth at White River	3.26 miles upstream

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TABLE 1: FLOODING SOURCES (Cont'd)

FLOODING SOURCE	DESCRIPTION OF STUDY LIMITS	
	FROM	TO
DETAILED FLOODING SOURCES		
Indian Creek	Indian Lake Dam	42nd Street
Lick Creek	the mouth at White River	21st Street
Little Buck Creek	the mouth at White River	Edgewood Avenue upstream crossing
Little Eagle Creek	the confluence with Eagle Creek	New Augusta Road
McFarland Creek	the confluence with Lick Creek	about 100 feet upstream of Emerson Avenue
Mud Creek	the mouth at Fall Creek	the county boundary
Oil Creek	the confluence with Payne Branch	86th Street
Payne Branch	the confluence with Crooked Creek	about 100 feet upstream of 86th Street
Pleasant Run	the confluence with White River	about 0.10 mile upstream of Richardt Street
Pogues Run	the confluence with White River	38th Street

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TABLE 1: FLOODING SOURCES (Cont'd)

FLOODING SOURCE	DESCRIPTION OF STUDY LIMITS	
	FROM	TO
DETAILED FLOODING SOURCES		
Sloan Ditch	the mouth at Churchman Creek	Hunter Road
Strange Creek	the confluence with Baily Creek	65th Street
Williams Creek	the mouth at White River	96th Street
White River	within the City of Indianapolis corporate limits	

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the emphasis shifted towards a more industrially-oriented economy. Since World War II the area has become a major manufacturing and marketing center for the midwest (Reference 2). By an act of the Indiana General Assembly in 1969, the city boundaries of Indianapolis were extended to include all of Marion County except for the Cities of Beech Grove, Lawrence, Southport, and the Town of Speedway (Reference 3).

The City of Indianapolis is located on a flat plain dissected by the White River and numerous creeks, streams, and drainageways. Low relief and few abrupt changes characterize the physiography of the area. The highest point in the city is 900 feet above sea level while the lowest point is 650 feet above sea level. The following general soil associations are found in Indianapolis: the Crosby-Brookston association consists of deep, somewhat poorly drained and very poorly drained, nearly level and gently sloping soils formed in a thin silty layer and underlying glacial till. This association is on gently undulating upland till plains. Approximately 15 percent of this association is in urban areas. The Miami-Crosby association consists of deep, well drained and somewhat poorly drained, nearly level to moderately steep soils formed in a thin silty layer and underlying glacial till. This association is on slightly dissected and moderately dissected upland plains between broad, nearly level and gently sloping ground moraines and bottom land or between terraces and outwash plains. Approximately 20 percent of this association is in urban areas. The Genesee-Sloan association consists of deep, well drained and very poorly drained, nearly level soils formed in loamy alluvium. This association is on flood plains along the White River and larger creeks. A large part is in urban areas (Reference 3).

On the fringe of the climatic influence associated with the Great Lakes, Indianapolis has a humid continental climate. The average annual precipitation of 38.7 inches is somewhat evenly distributed throughout the year. Spring and early summer rains usually exceed winter precipitation. The least precipitation usually occurs in February. The average daily maximum temperature for the year is 62 degrees Fahrenheit (F.); the average daily minimum is 42 degrees F.

Development in the flood plains of the City of Indianapolis is primarily residential and commercial, with some industrial development.

2.3 Principal Flood Problems

The flood situation in the City of Indianapolis can be divided into two categories. The history of flooding for the White River indicates that floods primarily occur in winter and early spring and are usually the results of heavy, widespread general rains and/or snowmelt. Flooding on the remainder of the streams usually results from high intensity, short duration storms in the summer and fall, although it can occur at any time.

Numerous damaging floods have occurred during this century on the White River, the major drainage course for the area. The following table lists the recurrence intervals of several of these floods.

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RECURRENCE INTERVALS OF MAJOR FLOODS[1]

Date	Elevation (feet NGVD)	Discharge cubic feet per second (cfs)	Frequency (yrs)
March 1913	692.26	70,000	300
February 1916	683.06	46,200	42
March 1904	686.96	46,000	42
March 1927	681.46	39,900	22
May 1943	683.65	37,200	16
January 1930	680.56	36,400	14
April 1964	682.14	35,600	13

[1]Data are for the White River gage at Indianapolis (mile 230.3). The drainage area at the gage is 1,635 square miles. (U.S. Geological Survey (USGS) gage No. 03-353000).

Some of the more significant floods for other streams in the study area are shown in the table below.

ELEVATIONS OF PAST FLOODS

Date	Stream and Location	Miles Above Mouth	Elevation (feet NGVD)	Discharge (cfs)
May 1956	Buck Creek at McGregor Road	4.12	776.2	16,800
May 1956	Grassy Creek at US Highway 52	0.41	807.6	5,700
July 1969	Lick Creek at S. Meridian Street	2.66	698.2	3,700
July 1969	Little Buck Creek at Meridian Street	4.68	710.4	5,600
May 1956	Pogues Run at Sherman Drive Bridge	5.24	760.1	3,180
May 1956	Pleasant Run at State Avenue Bridge	3.21	723.4	4,660

2.4 Flood Protection Measures

Both structural and nonstructural protection applications for flood damage relief are in effect for the City of Indianapolis. The structural projects include reservoirs, levees, floodwalls, diversions, and channel improvements. The nonstructural measures include state and local building ordinances and interim zoning as provided under the emergency phase of the National Flood Insurance Program.

Of the structural measures, the most effective is the flood control reservoir located on Eagle Creek, in the northwest portion of the county. This reservoir provides protection for flooding up to and including the 100-year flood levels. Another major impoundment within Indianapolis, Geist Reservoir, is mainly a water supply facility, and any flood relief would be minimal.

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The areas along the White River are protected by a series of levees, which for discussion purposes are divided into three sections. The section to the south of the downtown area is primarily old agricultural levees, poorly maintained, and difficult to assign a level of protection. The central section, running through the business and downtown districts, was constructed by the COE, is adequately maintained, and provides a 100-year level of flood protection. A northern section in the vicinity of Kessler Boulevard is poorly maintained with questionable flood protection capabilities. In addition to these levees, a limited levee reach with an improved channel area provides protection along the right bank of Fall Creek between 30th and 38th Streets. This facility is well maintained and should provide flood protection up to the 100-year level.

Within Eagle Creek Basin, a channel diversion has been constructed to provide relief from flooding from Dry Run as it flows through the Speedway area and, in particular, the Speedway racing facility. Although flows are reduced for this sector, the condition of divided flow makes it difficult to assign a definite level of protection.

Additionally, a considerable number of channel improvements, realignments, and bridge modifications have been made for the area as part of the Interstate Highway program. These improvements are usually for extremely short reaches and any reductions would be difficult to evaluate.

With regard to nonstructural measures, the entire City of Indianapolis, (Marion County) flood plain is subject to the Marion County Zoning Ordinance 71-AO-3 which generally complies with the provisions of the Indiana Flood Control Act of 1945 and the Indiana Flood Plain Management Act. These ordinances provide for permits for flood plain construction and prohibit construction within floodway areas.

3.0 ENGINEERING METHODS

For the flooding sources studied in detail in the community, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this study. Flood events of a magnitude which are expected to be equaled or exceeded once on the average during any 10-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for flood plain management and for flood insurance rates. These events, commonly termed the 10-, 50-, 100-, and 500-year floods, have a 10, 2, 1, and 0.2 percent chance, respectively, of being equaled or exceeded during any year. Although the recurrence interval represents the long term average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. For example, the risk of having a flood which equals or exceeds the 100-year flood (1 percent chance of annual exceedence) in any 50-year period is approximately 40 percent (4 in 10), and, for any 90-year period, the risk increases to approximately 60 percent (6 in 10). The analyses reported herein reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

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3.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish the peak discharge-frequency relationships for floods of the selected recurrence intervals for each flooding source studied in detail affecting the community.

The degree of development in the area ranges from completely rural to almost totally urbanized. A high degree of urbanization in a basin usually has an adverse impact on the rainfall-runoff relationship for that basin (as urbanization increases, runoff increases). The procedure for determining frequency discharges for Indianapolis was a combination of statistical analysis and a discharge-slope-percent urbanization relationship. The statistical analysis, using log-Pearson Type III, was made for 11 stream gages with various degrees of urbanization and slope and was based on Water Resources Council Bulletin No. 17A (Reference 4). Results of this analysis were plotted relating discharge and drainage area to percent urbanization and slope and formed a series of parallel lines. Frequency discharges for all streams except the White River were determined using this relationship. The White River discharges were based strictly on statistical analysis of all stream gages on the White River. All frequency discharges for the streams in this study were coordinated with the State of Indiana, the USGS, and the Soil Conservation Service (SCS).

Peak discharges for the 10-, 50-, 100-, and 500-year floods of each flooding source studied in detail in the community are shown in Table 2.

3.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of the streams in the community were carried out to provide estimates of the elevations of the floods of the selected recurrence intervals along each flooding source studied in detail.

Cross section data were obtained by integrating existing aerial topographic mapping with field survey measurements. The cross sections are located with respect to established river miles. The distance between river miles is only approximate. All bridges and culverts were surveyed to obtain elevation and structural geometry. Detailed structure plans were obtained whenever possible to document structure details. Water-surface profiles were developed using the COE HEC-2 computer step-backwater model (Reference 5).

The analysis for the streams studied by approximate methods included generation of flow quantities at selected locations. At these locations, cross sections were compiled and normal depth computations were performed to establish the 100-year approximate profile. These profiles were adjusted at bridges that would have a significant effect on the profile by constricting flow.

Locations of selected cross sections used in the hydraulic analyses are shown on the Flood Profiles. For stream segments for which a floodway was computed (Section 4.2), selected cross section locations are also shown on the Flood Boundary and Floodway Map.

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TABLE 2 - SUMMARY OF DISCHARGES

FLOODING SOURCE AND LOCATION	DRAINAGE AREA SQ MILES	PEAK DISCHARGES (CFS) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
BAILEY CREEK					
At mouth	2.20	950	1,500	1,800	2,300
BEAN CREEK[1]					
At mouth	5.50	1,660	2,230	2,510	3,230
BEECH CREEK					
At mouth	4.40	1,530	2,400	2,820	3,820
BUCK CREEK					
At county line	79.00	7,400	11,400	13,100	18,300
BUFFALO CREEK					
At county line	3.70	1,400	2,200	2,550	3,450
CAMP BRANCH					
At mouth	0.30	240	370	440	600
CARMEL CREEK					
At mouth	5.47	1,800	2,500	3,200	4,050
CHURCHMAN CREEK					
At mouth	2.88	1,200	1,800	2,200	2,800
CROOKED CREEK					
At mouth	20.10	3,500	6,000	7,500	10,050
DELAWARE CREEK					
At mouth	2.06	600	1,060	1,310	1,750

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TABLE 2 - SUMMARY OF DISCHARGES (Cont'd)

FLOODING SOURCE AND LOCATION	DRAINAGE AREA SQ MILES	PEAK DISCHARGES (CFS) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
DEVON CREEK					
At mouth	3.61	1,325	2,075	2,450	3,150
DRY RUN					
Above Dry Run diversion ditch	4.50	1,100	1,920	2,400	3,490
DRY RUN DIVERSION DITCH					
At mouth	5.74	1,300	2,300	2,900	4,200
EAGLE CREEK [2]					
At mouth	210.00	14,000	14,000	14,000	30,500
FALCON CREEK					
At mouth	3.85	960	1,700	2,200	3,100
FALL CREEK					
At mouth	318.00	9,250	13,800	16,000	20,500
FISHER CREEK					
At mouth	2.94	1,200	1,800	2,100	2,800
GRASSY CREEK					
At mouth	18.80	4,250	6,200	7,000	8,800
GUION CREEK					
At mouth	4.75	1,150	2,000	2,500	3,600

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TABLE 2 - SUMMARY OF DISCHARGES (Cont'd)

FLOODING SOURCE AND LOCATION	DRAINAGE AREA SQ MILES	PEAK DISCHARGES (CFS) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
HOWLAND DITCH At mouth	8.16	2,400	3,800	4,400	5,800
INDIAN CREEK At dam	25.40	4,700	7,000	8,000	10,500
LICK CREEK At mouth	26.20	5,300	8,200	9,600	13,200
LITTLE BUCK CREEK At mouth	16.80	3,900	6,000	7,100	9,200
LITTLE EAGLE CREEK At mouth	26.90	4,400	7,800	9,600	13,000
MCFARLAND CREEK At mouth	1.90	850	1,340	1,600	2,150
MUD CREEK At mouth	43.10	1,450	2,100	2,500	3,000
OIL CREEK At mouth	1.00	350	610	765	1,030
PAYNE BRANCH At mouth	2.20	610	1,075	1,350	1,800
PLEASANT RUN At mouth	21.10	4,500	7,100	8,300	10,100

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TABLE 2 - SUMMARY OF DISCHARGES (Cont'd)

FLOODING SOURCE AND LOCATION	DRAINAGE AREA SQ MILES	PEAK DISCHARGES (CFS) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
POGUES RUN					
At conduit inlet	8.87	2,490	3,900	4,600	6,100
SLOAN DITCH[1]					
At mouth	1.75	200	330	410	555
STRANGE CREEK					
At mouth	1.45	700	1,100	1,300	1,800
WILLIAMS CREEK					
At mouth	22.20	4,000	6,000	8,100	10,500
WHITE RIVER					
At county line	1,950.00	38,000	54,000	62,000	75,000

[1]Discharges affected by bridge-induced storage

[2]Discharges affected by Eagle Creek Lake

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Roughness coefficients (Manning's "n") depend on such factors as type and amount of vegetation, channel configuration, and water depth. Field inspections at each cross section provided estimated values. In conjunction with this approach, known roughness factors for comparable streams in adjacent watersheds were considered in addition to verifying the coefficients by reproducing known high water marks where possible. The range of roughness coefficients for streams studied in detail is shown in Table 3. Starting water-surface elevations were determined by slope area computation at the downstream limit of study for all streams.

Flowline computations for Bean Creek at the Conrail bridge (mile 3.37) and Sloan Ditch at the Conrail bridge (mile 0.73) resulted in extremely high backwater profiles when the frequency discharges discussed above were used. This was caused by constrictions at road structures. Storage routings using the computer program HEC-1, Flood Hydrograph Package (Reference 6), resulted in storage-adjusted flows. These storage-adjusted flows for the different frequency floods were used to compute the final flood frequency profiles.

TABLE 3
ROUGHNESS COEFFICIENTS

Stream	Channel	Overbank
Bailey Creek	0.045	0.060
Bean Creek	0.040 to 0.055	0.040 to 0.065
Beech Creek	0.050	0.040 to 0.080
Buck Creek	0.030 to 0.055	0.040 to 0.092
Buffalo Creek	0.030 to 0.050	0.040 to 0.070
Camp Branch	0.060	0.070
Carmel Creek	0.040	0.060
Churchman Creek	0.050	0.055
Crooked Creek	0.025 to 0.070	0.030 to 0.080
Delaware Creek	0.030 to 0.045	0.030 to 0.050
Devon Creek	0.040	0.050 to 0.060
Dry Run	0.030 to 0.050	0.040 to 0.065
Dry Run Diversion Ditch	0.030 to 0.040	0.030 to 0.060
Eagle Creek	0.030	0.030 to 0.100
Falcon Creek	0.037 to 0.065	0.050 to 0.065
Fall Creek	0.030 to 0.055	0.045 to 0.080
Fisher Creek	0.040 to 0.050	0.045 to 0.080
Grassy Creek	0.030 to 0.045	0.040 to 0.050
Guion Creek	0.035 to 0.055	0.030 to 0.065
Howland Ditch	0.045 to 0.060	0.050 to 0.085
Indian Creek	0.055 to 0.065	0.060 to 0.110
Lick Creek	0.030 to 0.055	0.040 to 0.070
Little Buck Creek	0.025 to 0.065	0.040 to 0.080
Little Eagle Creek	0.030 to 0.060	0.035 to 0.070
McFarland Creek	0.040 to 0.060	0.045 to 0.060

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TABLE 3 (cont'd)
ROUGHNESS COEFFICIENTS

Stream	Channel	Overbank
Mud Creek	0.045 to 0.055	0.055 to 0.065
Oil Creek	0.050 to 0.055	0.060
Payne Branch	0.040 to 0.055	0.060 to 0.075
Pleasant Run	0.030 to 0.045	0.045 to 0.065
Pogues Run	0.030 to 0.040	0.040 to 0.055
Sloan Ditch	0.030	0.035 to 0.055
Strange Creek	0.050	0.060
White River	0.020 to 0.045	0.045 to 0.080
Williams Creek	0.030 to 0.065	0.045 to 0.080

A special condition exists on Little Eagle Creek and Dry Run in the vicinity of the Indianapolis Motor Speedway. In this area, the major portion of flood flows from Dry Run are diverted to Little Eagle Creek through Dry Run Diversion Ditch upstream of the Speedway. However, because of the nature of the drainage basins in this area, only a slight increase in peak discharges and flood durations occurs on Little Eagle Creek.

Another special case exists on the first 0.4 mile of Williams Creek and the White River between mile 242.5 and 244.8. To lessen flooding on the White River in this area, about 35 percent of flood flows are diverted to Williams Creek through the Williams Creek Cutoff at White River mile 244.8, re-entering the White River at mile 242.5. Flood frequency elevations on the White River in this reach are reduced about 1 to 2 feet as a result of this cutoff.

At mile 2.2, Pogues Run enters a culvert and remains enclosed for about 11,500 feet until it enters into the White River. Because of the limited capacity, flow over this culvert from high intensity storms will occur. The degree of flooding in this area cannot be accurately determined for lack of detailed information, except that shallow flooding is likely in areas adjacent to this culvert.

Flood profiles were drawn showing the computed water-surface elevations for floods of the selected recurrence intervals.

The hydraulic analyses for this study are based only on the effects of unobstructed flow. The flood elevations as shown on the profiles are, therefore, considered valid only if hydraulic structures, in general, remain unobstructed and if channel and overbank conditions remain essentially the same as ascertained during this study.

All elevations are referenced from National Geodetic Vertical Datum of 1929 (NGVD). Elevation reference marks used in the study are shown on the maps.

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4.0 FLOOD PLAIN MANAGEMENT APPLICATIONS

The National Flood Insurance Program encourages state and local governments to adopt sound flood plain management programs. Therefore, each Flood Insurance Study includes a flood boundary map designed to assist communities in developing sound flood plain management measures.

4.1 Flood Boundaries

In order to provide a national standard without regional discrimination, the 100-year flood has been adopted by FEMA as the base flood for purposes of flood plain management measures. The 500-year flood is employed to indicate additional areas of flood risk in the community. For each stream studied in detail, the boundaries of the 100-year and the 500-year floods have been delineated using the elevations determined at each cross section; between cross sections the boundaries were interpolated using topographic maps at a scale of 1:24000 enlarged to a scale of 1:1200 with a general contour interval of 10 feet (Reference 7), and special mapping at a scale of 1:2400 with a contour interval of 2 feet (Reference 8). The above referenced maps were also used in the delineation of flooding from the streams studied by approximate methods.

The boundaries of the 100- and 500-year floods are shown on the Flood Boundary and Floodway Map. Small areas within the flood boundaries may lie above the flood elevations and, therefore, not be subject to flooding; owing to lack of detailed topographical information or to limitations of the map scale, such areas are not shown. In cases where the 100-year and the 500-year flood boundaries are close together, only the 100-year boundary has been shown.

4.2 Floodways

Encroachment on flood plains, such as artificial fill, reduces the flood-carrying capacity, increases the flood heights of streams, and increases flood hazards in areas beyond the encroachment itself. One aspect of flood plain management involves balancing the economic gain from flood plain development against the resulting increase in flood hazard. For purposes of the National Flood Insurance Program, the concept of a floodway is used as a tool to assist local communities in this aspect of flood plain management. Under this concept, the area of the 100-year flood is divided into a floodway and a floodway fringe. The floodway is the channel of a stream plus any adjacent flood plain areas that must be kept free of encroachment in order that the 100-year flood may be carried without substantial increases in flood heights. Minimum standards of FEMA limit such increases in flood heights to 1.0 foot, provided that hazardous velocities are not produced. The State of Indiana, however, as set down by the Indiana Flood Control Act of 1945 and the Natural Resources Commission Policy Guidelines, Section 6, adopted March 28, 1974 (Reference 9), has designated that encroachment in the flood plain is limited to that which will cause no significant increase in flood heights. For the purposes of this study, an encroachment of 0.1 foot has been used.

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The floodways presented in this study were computed on the basis of equal conveyance reduction from each side of the flood plain. However, certain reaches of floodway were delineated administratively by the State of Indiana Department of Natural Resources. No floodway was determined for Indian Lake due to the nonapplicability of the floodway concept to lacustrine areas.

The results of these computations were tabulated at selected cross sections for each stream segment for which a floodway was computed and are presented in Table 4, Floodway Data.

As shown on the Flood Boundary and Floodway Map, the floodway widths were determined at cross sections. Between cross sections, the boundaries were interpolated. In cases where the boundaries of the floodway and the 100-year flood are either close together or collinear, only the floodway boundary has been shown.

The area between the floodway and the boundary of the 100-year flood is termed the floodway fringe. The floodway fringe thus encompasses the portion of the flood plain that could be completely obstructed without increasing the water-surface elevation of the 100-year flood more than 0.1 foot at any point. Typical relationships between the floodway and the floodway fringe and their significance to flood plain development are shown in Figure 2.

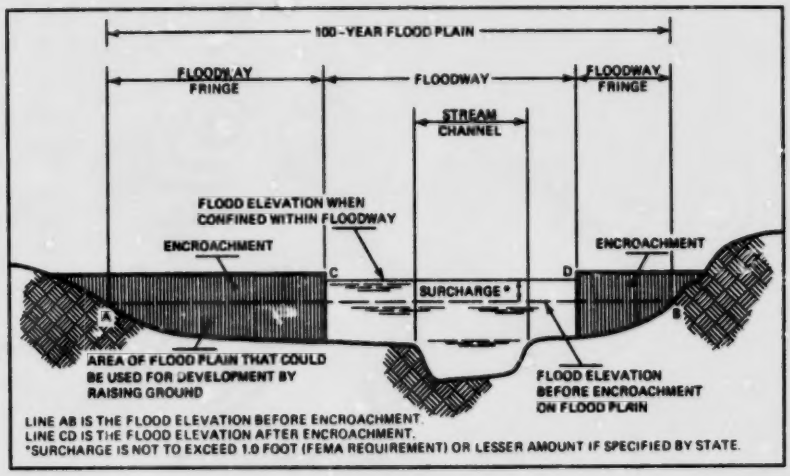
100-YEAR FLOOD PLAIN
FLOODWAY FRINGE
FLOODWAY
FLOODWAY FRINGE
STREAM CHANNEL
FLOOD ELEVATION WHEN CONFINED WITHIN FLOODWAY
ENCROACHMENT
ENCROACHMENT
C
D
SURCHARGE*
A
B
AREA OF FLOOD PLAIN THAT COULD BE USED FOR DEVELOPMENT BY RAISING GROUND
FLOOD ELEVATION BEFORE ENCROACHMENT ON FLOOD PLAIN
LINE AB IS THE FLOOD ELEVATION BEFORE ENCROACHMENT.
LINE CD IS THE FLOOD ELEVATION AFTER ENCROACHMENT.
*SURCHARGE IS NOT TO EXCEED 1.0 FOOT (FEMA REQUIREMENT) OR LESSER AMOUNT IF SPECIFIED BY STATE.

FIGURE 2 - Floodway Schematic

The floodways in this report are recommended to local agencies as minimum standards that can be adopted or that can be used as a basis for additional studies.

5.0 INSURANCE APPLICATION

In order to establish actuarial insurance rates, FEMA has developed a process to transform the data from the engineering study into flood insurance criteria. This process includes the determination of reaches, Flood Hazard Factors, and flood insurance zone designations for each flooding source affecting the City of Indianapolis.

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FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA[2] (SQ. FEET)	MEAN VELOCITY[2] (FEET/SEC.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
WHITE RIVER								
A	220.04	2660	10,832	5.7	661.4	661.4	661.4	0.0
B	220.37	1660	9808	6.3	662.2	662.2	662.2	0.0
C	220.87	720	10,035	6.2	664.0	664.0	664.0	0.0
D	221.10	760	10,589	5.9	665.3	665.3	665.3	0.0
E	221.43	1200	13,866	4.5	666.6	666.6	666.6	0.0
F	221.81	860	10,640	5.8	667.5	667.5	667.5	0.0
G	223.37	1370	9822	6.3	671.3	671.3	671.3	0.0
H	223.70	1100	14,665	4.2	672.6	672.6	672.6	0.0
I	223.95	1640	15,563	4.0	673.3	673.3	673.3	0.0
J	224.46	1200	12,833	4.8	674.5	674.5	674.5	0.0
K	224.80	1560	14,745	4.2	675.5	675.5	675.5	0.0
L	225.10	1360	11,715	5.2	676.3	676.3	676.3	0.0
M	225.40	1450	13,251	4.6	677.5	677.5	677.5	0.0
N	226.30	1570	15,732	3.9	679.9	679.9	679.9	0.0
O	226.80	890	11,401	5.4	680.9	680.9	680.9	0.0
P	227.10	950	7075	8.0	681.0	681.0	681.0	0.0
Q	227.91	1220	10,797	5.2	683.5	683.5	683.5	0.0
R	229.21	825	14,037	4.0	685.5	685.5	685.5	0.0
S	229.52	730	13,157	4.3	685.7	685.7	685.7	0.0
T	230.32	750	11,597	4.8	686.4	686.4	686.4	0.0
U	230.64	920	12,322	4.5	687.0	687.0	687.0	0.0
V	230.82	640	9850	5.7	687.3	687.3	687.3	0.0
W	231.06	620	7665	7.3	688.2	688.2	688.3	0.1
X	231.22	510	5779	9.7	689.2	689.2	689.3	0.1
Y	231.43	1080	12,411	4.5	690.9	690.9	691.0	0.1
Z	232.14	1010	14,845	3.8	691.6	691.6	691.7	0.1

[1]MILES ABOVE MOUTH
[2]APPROXIMATE VALUES

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOODWAY DATA

WHITE RIVER

BEST COPY AVAILABLE

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA[2] (SQ. FEET)	MEAN VELOCITY[2] (FEET/SEC.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
WHITE RIVER								
AA	232.42	840	9417	5.9	691.7	691.7	691.8	0.1
AB	232.82	890	12,366	4.5	692.5	692.5	692.6	0.1
AC	233.22	750	7338	6.6	692.8	692.8	692.9	0.1
AD	233.64	700	8506	5.7	698.1	698.1	698.1	0.0
AE	233.87	700	11,468	4.2	698.6	698.6	698.6	0.0
AF	234.27	490	10,674	4.5	698.9	698.9	698.9	0.0
AG	234.75	440	7017	6.9	699.2	699.2	699.2	0.0
AH	235.20	390	6727	7.2	700.4	700.4	700.4	0.0
AI	235.57	380	6625	7.3	702.0	702.0	702.0	0.0
AJ	236.69	600	10,439	4.6	703.7	703.7	703.7	0.0
AK	237.29	2110	5118	9.5	704.3	704.3	704.4	0.1
AL	237.87	581	6018	8.1	708.4	708.4	708.5	0.1
AM	238.20	750	6211	7.8	709.8	709.8	709.9	0.1
AN	238.50	550	9564	5.1	712.2	712.2	712.2	0.0
AO	238.70	550	11,168	4.3	712.7	712.7	712.7	0.0
AP	238.83	500	7208	6.7	712.7	712.7	712.7	0.0
AQ	239.00	310	5700	8.3	712.9	712.9	712.9	0.0
AR	239.46	360	8415	5.6	714.6	714.6	714.6	0.0
AS	239.80	800	9138	5.2	715.4	715.4	715.4	0.0
AT	240.20	1500	13,630	3.5	716.8	716.8	716.8	0.0
AU	240.60	750	9915	4.8	717.3	717.3	717.3	0.0
AV	240.78	600	8689	5.5	717.7	717.7	717.7	0.0
AW	240.82	680	8695	5.5	717.9	717.9	717.9	0.0
AX	241.10	400	6091	7.8	718.3	718.3	718.3	0.0
AY	241.30	540	9530	5.0	719.4	719.4	719.4	0.0
AZ	241.50	700	10,371	4.6	719.9	719.9	719.9	0.0

[1]MILES ABOVE MOUTH
[2]APPROXIMATE VALUES

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOODWAY DATA

WHITE RIVER

BEST COPY AVAILABLE

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA[2] (SQ. FEET)	MEAN VELOCITY[2] (FEET/SEC.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
WHITE RIVER								
BA	241.90	550	7613	6.2	720.4	720.4	720.4	0.0
BB	242.30	440	6326	7.5	721.2	721.2	721.2	0.0
BC	242.63	600	9276	3.9	722.6	722.6	722.6	0.0
BD	242.82	475	7413	4.8	722.7	722.7	722.7	0.0
BE	243.05	450	8907	4.0	723.2	723.2	723.2	0.0
BF	243.08	425	6455	5.5	723.2	723.2	723.2	0.0
BG	243.15	450	5212	6.9	723.5	723.5	723.5	0.0
BH	243.60	400	5268	6.8	725.0	725.0	725.0	0.0
BI	244.26	760	8948	4.0	726.5	726.5	726.5	0.0
BJ	244.90	1530	17,155	2.7	727.6	727.6	727.6	0.0
BK	245.40	1570	16,068	2.9	728.3	728.3	728.3	0.0
BL	245.90	810	11,408	4.1	728.8	728.8	728.8	0.0
BM	246.03	690	6681	7.0	728.8	728.8	728.8	0.0
BN	246.70	1080	13,481	3.4	730.9	730.9	730.9	0.0
BO	247.00	970	15,800	2.9	731.3	731.3	731.3	0.0
BP	247.60	840	6665	7.0	731.5	731.5	731.5	0.0
BQ	247.85	650	7853	5.9	732.9	732.9	732.9	0.0
BR	247.90	560	8071	5.8	733.1	733.1	733.1	0.0
BS	248.40	260	6974	6.7	734.9	734.9	734.9	0.0
BT	249.00	2200	26,018	1.8	737.8	737.8	737.8	0.0
BU	249.53	600	17,064	2.7	738.3	738.3	738.3	0.0
BV	249.59	540	18,965	2.5	738.4	738.4	738.4	0.0
BW	250.00	2200	27,830	1.7	738.7	738.7	736.7	0.0
BX	250.40	2280	23,117	2.0	739.1	739.1	739.1	0.0

[1]MILES ABOVE MOUTH
[2]APPROXIMATE VALUES

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOODWAY DATA

WHITE RIVER

BEST COPY AVAILABLE

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
BAILEY CREEK								
A	0.15	114	581	3.1	726.0	721.2[4]	721.3	0.1
B	0.26	131	520	3.5	726.0	722.4[4]	722.5	0.1
C	0.39	100	563[3]	3.2[3]	726.0	725.5[4]	725.6	0.1
D	0.57	103	566	3.2	726.6	726.6	726.7	0.1
E	0.66	174	787	2.3	727.8	727.8	727.9	0.1
F	1.06	150	279[3]	6.4[3]	729.8	729.8	729.9	0.1
G	1.42	399	1248	0.5	732.4	732.4	732.5	0.1
BEECH CREEK								
A	0.06[2]	110	545	5.2	763.3	763.3	763.4	0.1
B	0.20[2]	320	998	2.8	765.9	765.9	766.0	0.1
C	0.44[2]	100	433[3]	6.5[3]	773.2	773.2	773.2	0.0
D	0.69[2]	175	390[3]	6.6[3]	779.2	779.2	779.3	0.1
E	0.88[2]	92	392[3]	6.5[3]	786.3	786.3	786.4	0.1
F	1.12[2]	175	409[3]	5.9[3]	793.3	793.3	793.4	0.1
G	1.37[2]	100	359[3]	6.7[3]	799.0	799.0	799.1	0.1

[1]MILES ABOVE MOUTH
[2]MILES ABOVE CONFLUENCE WITH LICK CREEK
[3]APPROXIMATE VALUES
[4]ELEVATIONS WITHOUT CONSIDERING BACKWATER EFFECT FROM WHITE RIVER

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOODWAY DATA

BAILEY CREEK - BEECH CREEK

BEST COPY AVAILABLE

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
BUFFALO CREEK								
A	0.80	160	476	5.4	708.7	708.7	708.8	0.1
B	0.91	140	558	4.6	711.0	711.0	711.1	0.1
C	1.14	293	892	2.7	713.3	713.3	713.4	0.1
D	1.36	120	291	8.3	716.7	716.7	716.7	0.0
E	1.49	76	322	7.2	721.1	721.1	721.1	0.0
F	1.59	241	1120	2.1	725.0	725.0	725.1	0.1
G	1.88	201	1096	1.8	726.7	726.7	726.8	0.1
H	2.18	265	567	2.4	731.6	731.6	731.6	0.0
I	2.41	363	1649	0.8	738.1	738.1	738.2	0.1
J	2.46	130	426[2]	3.2[2]	738.1	738.1	738.1	0.0
K	2.66	140	416[2]	2.9[2]	740.3	740.3	740.4	0.1
L	2.79	120	694[2]	1.7[2]	741.7	741.7	741.8	0.1
M	3.08	60	283[2]	3.8[2]	743.3	743.3	743.4	0.1
N	3.17	160	497[2]	2.2[2]	748.3	748.3	748.3	0.0
O	3.33	215	1116[2]	1.0[2]	752.2	752.2	752.2	0.0
P	3.56	180	577[2]	1.5[2]	752.4	752.4	752.4	0.0
Q	3.72	260	607[2]	1.4[2]	753.3	753.3	753.3	0.0
R	3.99	160	346[2]	2.0[2]	754.4	754.4	754.5	0.1

[1]MILES ABOVE MOUTH
[2]APPROXIMATE VALUES

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN

(MARION CO.)

FLOODWAY DATA

BUFFALO CREEK

BEST COPY AVAILABLE

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA[2] (SQ.FEET)	MEAN VELOCITY[2] (FEET/SEC.)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET)
BEAN CREEK								
A	0.18	115	365	6.9	707.6	707.6	707.6	0.0
B	0.33	393	638	3.9	710.9	710.9	710.9	0.0
C	0.55	64	370	6.8	713.8	713.8	713.8	0.0
D	0.66	49	279	9.0	715.6	715.6	715.6	0.0
E	0.75	44	351	7.2	721.1	721.1	721.1	0.1
F	0.88	167	649	3.9	723.8	723.8	723.8	0.0
G	0.97	93	528	4.8	724.4	724.4	724.4	0.0
H	1.08	180	625	4.0	728.4	728.4	728.4	0.0
I	1.44	190	589	4.3	735.1	735.1	735.2	0.1
J	1.81	193	590	3.8	744.3	744.3	744.4	0.1
K	2.26	199	341	4.7	748.4	748.4	748.4	0.0
L	2.34	161	665	2.4	751.8	751.8	751.8	0.0
M	2.44	57	231	7.0	753.0	753.0	753.1	0.1
N	2.67	291	333	4.8	755.8	755.8	755.9	0.1
O	3.00	67	307	5.2	762.5	762.5	762.6	0.1
P	3.44	257	1908	1.1	776.8	776.8	776.9	0.0
Q	4.10	292	1329	1.6	785.7	785.7	785.8	0.0
R	4.50	290	957	1.7	294.6	794.6	794.6	0.0
S	4.63	298	1281	1.2	796.9	796.9	796.9	0.0
T	4.79	129	441	3.6	797.2	797.2	797.2	0.0
U	4.87	130	453	3.5	798.2	798.2	798.3	0.1

[1]FEET ABOVE CONFLUENCE WITH PLEASANT RUN
[2]APPROXIMATE VALUES

REVISED: 6/3/88

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOODWAY DATA

BEAN CREEK

BEST COPY AVAILABLE

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA[2] (SQ. FEET)	MEAN VELOCITY[2] (FEET/SEC.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
BUCK CREEK								
A	2.58	519	3859	3.4	764.1	764.1	764.2	0.1
B	2.75	313	2017	6.5	765.6	765.6	765.7	0.1
C	3.00	300	3040	4.3	767.9	767.9	768.0	0.1
D	3.30	248	2150	6.1	770.8	770.8	770.9	0.1
E	3.56	800	2495	5.2	773.5	773.5	773.6	0.1
F	3.59	700	3440	3.8	774.0	774.0	774.1	0.1
G	3.96	550	5754	2.3	774.8	774.8	774.9	0.1
H	4.14	243	3017	4.3	775.3	775.3	775.4	0.1
I	4.59	817	7526	1.7	776.2	776.2	776.3	0.1
J	4.85	750	6843	1.8	776.4	776.4	776.5	0.1
K	5.20	1222	7216	1.7	776.8	776.8	776.9	0.1
L	5.66	700	3260	3.9	777.7	777.7	777.8	0.1
M	5.73	475	2476	5.1	778.2	778.2	778.3	0.1
N	5.98	1200	6251	2.0	779.4	779.4	779.5	0.1
O	6.54	1361	5904	2.1	781.0	781.0	781.1	0.1
P	7.38	750	2235	5.4	785.6	785.6	785.6	0.0
Q	8.12	250	2102	5.5	789.2	789.2	789.2	0.0
R	9.06	325	4071	2.7	794.0	794.0	794.1	0.1
S	9.42	650	3192	3.4	795.4	795.4	795.5	0.1
T	10.12	380	3104	3.5	801.4	801.4	801.5	0.1
U	10.75	517	3258	3.1	803.7	803.7	803.8	0.1
V	11.05	563	2961	2.7	804.6	804.6	804.7	0.1
W	11.26	290	1027	7.8	809.1	809.1	809.1	0.0
X	11.52	390	3150	2.5	811.5	811.5	811.6	0.1
Y	12.25	440	2357	3.3	812.6	812.6	812.7	0.1
Z	12.61	573	2792	2.8	814.5	814.5	814.6	0.1
AA	12.97	543	2523	3.1	816.2	816.2	816.3	0.1
AB	13.50	715	3422	2.3	821.5	821.5	821.6	0.1

[1]MILES ABOVE MOUTH
[2]APPROXIMATE VALUES

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOODWAY DATA

BUCK CREEK

BEST COPY AVAILABLE

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA[2] (SQ. FEET)	MEAN VELOCITY[2] (FEET/SEC.)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET)
BUCK CREEK								
AC	13.90	425	2264	3.4	823.9	823.9	824.0	0.1
AD	14.13	481	2415	3.2	825.7	825.7	825.8	0.1
LITTLE BUCK CREEK								
A	1.69	800	1528	4.6	674.1	674.1	674.2	0.1
B	2.19	810	1455	4.9	680.1	680.1	680.5	0.4
C	2.26	910	973	7.3	681.0	681.0	681.4	0.4
D	2.48	960	2638	2.7	683.9	683.9	684.1	0.2
E	2.70	610	1139	6.2	685.4	685.4	685.6	0.2
F	3.02	389	1346	5.3	688.4	688.4	688.5	0.1
G	3.07	280	811	8.8	689.0	689.0	689.1	0.1
H	3.12	320	962	7.4	690.4	690.4	690.4	0.0
I	3.35	228	1364	5.2	693.2	693.2	693.3	0.1
J	3.53	270	1362	5.2	695.4	695.4	695.5	0.1
K	3.86	395	1761	4.0	700.1	700.1	700.2	0.1
L	4.43	354	2197	3.1	707.1	707.1	707.2	0.1
M	4.59	89	690	10.0	709.2	709.2	709.3	0.1
N	4.68	95	870	7.9	712.6	712.6	712.7	0.1
O	4.98	366	2372	2.9	716.3	716.3	716.4	0.1
P	5.28	300	1656	4.2	718.2	718.2	718.3	0.1
Q	5.34	328	1852	3.7	719.8	719.8	719.9	0.1
R	5.58	471	1933	3.6	721.7	721.7	721.8	0.1
S	5.72	318	1511	4.6	722.4	722.4	722.5	0.1
T	5.79	289	1571	4.4	723.5	723.5	723.5	0.0
U	5.94	458	2111	3.3	724.4	724.4	724.5	0.1
V	6.15	226	1199	5.8	725.8	725.8	725.9	0.1
W	6.32	184	1127	6.1	729.1	729.1	729.2	0.1
X	6.40	282	1855	3.7	732.6	732.6	732.7	0.1
Y	6.48	297	2110	3.3	733.2	733.2	733.4	0.2
Z	6.52	437	3249	2.1	733.5	733.5	733.7	0.2

[1]MILES ABOVE MOUTH
[2]APPROXIMATE VALUES

REVISED: 6/3/88

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOODWAY DATA

BUCK CREEK—LITTLE BUCK CREEK

BEST COPY AVAILABLE

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA[2] (SQ.FEET)	MEAN VELOCITY[2] (FEET/SEC.)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET)
LITTLE BUCK CREEK								
AA	6.65	200	1838	3.8	733.7	733.7	733.8	0.1
AB	7.04	407	1529	4.5	736.9	736.9	736.9	0.0
AC	7.26	240	1334	5.2	740.9	740.9	740.9	0.0
AD	7.34	568	2485	2.3	743.5	743.5	743.6	0.1
AE	7.37	400	1880	3.1	743.5	743.5	743.6	0.1
AF	7.72	320	849	6.5	746.8	746.8	746.9	0.1
AG	7.77	94	642	8.6	748.0	748.0	748.1	0.1
AH	7.98	118	842	6.5	751.1	751.1	751.2	0.1
AI	8.07	334	1021	5.4	752.8	752.8	752.8	0.0
AJ	8.20	485	1885	2.6	756.2	756.2	756.2	0.0
AK	8.41	265	1292	3.8	757.8	757.8	757.8	0.0
AL	8.64	295	1261	3.9	762.1	762.1	762.1	0.0
AM	8.70	213	1053	4.7	763.0	763.0	763.0	0.0
AN	8.82	248	1241	4.4	764.6	764.6	764.6	0.0
AO	8.98	436	2224	2.2	767.7	767.7	767.7	0.0
AP	9.28	335	1298	3.5	769.8	769.8	769.8	0.0
AQ	9.50	208	1044	4.3	773.3	773.3	773.4	0.0
AR	9.75	539	2079	2.2	777.2	777.2	777.3	0.1
AS	9.96	212	926	4.2	779.5	779.5	779.6	0.1
AT	10.18	132	561	6.9	782.8	782.8	782.8	0.0
AU	10.25	155	954	4.1	785.4	785.4	785.5	0.1
AV	10.38	236	911	4.3	787.0	787.0	787.1	0.1
AW	10.89	136	960	3.6	793.1	793.1	793.1	0.0
AX	10.93	125	980	3.6	793.7	793.7	793.7	0.0
AY	11.29	245	656	5.3	798.8	798.8	798.9	0.1
AZ	11.61	221	1187	2.9	805 4	805.4	805.5	0.1

[1]MILES ABOVE MOUTH
[2]APPROXIMATE VALUES

REVISED: 6/3/88

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOODWAY DATA

LITTLE BUCK CREEK

BEST COPY AVAILABLE

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA[2] (SQ. FEET)	MEAN VELOCITY[2] (FEET/SEC.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
LITTLE BUCK CREEK								
BA	12.10	192	797	3.3	809.9	809.9	810.0	0.1
BB	12.22	172	451	4.2	812.1	812.1	812.2	0.1
BC	12.54	329	830	2.3	819.1	819.1	819.2	0.1
BD	12.81	211	639	3.0	823.6	823.6	823.7	0.1
BE	13.05	103	390	4.9	827.4	827.4	827.5	0.1
BF	13.20	123	518	3.7	830.2	830.2	830.3	0.1
BG	13.42	249	660	2.9	833.2	833.2	833.3	0.1
BH	13.47	474	1532	1.2	836.0	836.0	836.1	0.1
BI	13.65	174	760	2.5	837.1	837.1	837.2	0.1
BJ	13.72	219	889	2.1	840.2	840.2	840.3	0.1
BK	14.04	176	615	3.1	842.4	842.4	842.5	0.1
CARMEL CREEK								
A	0.37	270	1648	1.9	738.8	730.4[3]	730.5	0.1
B	0.39	260	2052	1.6	738.9	731.2[3]	731.3	0.1
C	0.56	150	765	4.2	739.0	732.6[3]	732.7	0.1
D	0.65	210	668	4.8	739.0	735.1[3]	735.2	0.1
E	0.83	610	937	3.4	739.0	738.1[3]	738.2	0.1
F	0.86	610	753	4.3	739.7	739.7	739.7	0.0

[1]MILES ABOVE MOUTH
[2]APPROXIMATE VALUES
[3]ELEVATIONS WITHOUT CONSIDERING OVERFLOW EFFECT FROM WHITE RIVER

REVISED: 6/3/88

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOODWAY DATA

LITTLE BUCK CREEK - CARMEL CREEK

BEST COPY AVAILABLE

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
CROOKED CREEK								
A	0.37	290	18,723[2]	0.4[2]	705.5	705.5	705.6	0.1
B	0.49	260	4535[2]	1.7[2]	705.5	705.5	705.6	0.1
C	0.59	780	8536[2]	1.1[2]	708.6	708.6	708.7	0.1
D	0.70	650	3486[2]	2.0[2]	709.1	709.1	709.2	0.1
E	0.85	450	1247[2]	5.7[2]	712.3	712.3	712.4	0.1
F	0.96	310	1263	5.6	713.9	713.9	714.0	0.1
G	1.12	163	1205	5.9	718.2	718.2	718.3	0.1
H	1.41	360	3407[2]	2.1[2]	724.8	724.8	724.9	0.1
I	1.58	410	2113[2]	3.4[2]	725.3	725.3	725.4	0.1
J	1.66	320	2316[2]	3.1[2]	726.6	726.6	726.7	0.1
K	1.75	360	1593	4.5	727.0	727.0	727.1	0.1
L	2.04	123	936	7.6	730.8	730.8	730.9	0.1
M	2.36	450	1984[2]	3.4[2]	737.0	737.0	737.1	0.1
N	2.56	250	1295	5.2	739.6	739.6	739.7	0.1
O	2.68	220	2074[2]	3.2[2]	741.8	741.8	741.9	0.1
P	3.43	375	1587	4.0	749.9	749.9	750.0	0.1
Q	3.46	486	2241	2.8	752.0	752.0	752.1	0.1
R	3.70	170	855[2]	7.4[2]	753.6	753.6	753.6	0.0
S	3.86	204	1150	5.5	756.7	756.7	756.8	0.1
T	3.90	120	639[2]	9.9[2]	756.7	756.7	756.8	0.1
U	3.99	70	750	8.4	758.9	758.9	759.0	0.1
V	4.11	670	2984[2]	2.0[2]	762.6	762.6	762.7	0.1
W	4.18	820	3964[2]	1.5[2]	762.8	762.8	762.9	0.1
X	4.49	494	2423	2.4	763.6	763.6	763.7	0.1
Y	4.66	369	1580	3.7	764.5	764.5	764.6	0.1
Z	4.77	219	1183	5.0	765.7	765.7	765.8	0.1

[1]MILES ABOVE MOUTH
[2]APPROXIMATE VALUES

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOODWAY DATA

CROOKED CREEK

BEST COPY AVAILABLE

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
CROOKED CREEK								
AA	4.92	483	1640	3.3	768.1	768.1	768.2	0.1
AB	5.47	427	2016	2.6	774.6	774.6	774.7	0.1
AC	5.52	180	869[2]	6.0[2]	775.9	775.9	776.0	0.1
AD	5.68	76	971	5.4	778.4	778.4	778.4	0.0
AE	6.00	580	1595	3.3	782.3	782.3	782.4	0.1
AF	6.42	417	1211	3.2	785.5	785.5	785.6	0.1
AG	6.75	175	727[2]	5.4	789.8	789.8	789.9	0.1
AH	6.83	129	759	5.1	791.8	791.8	791.9	0.1
AI	7.08	325	1123[2]	3.5[2]	795.1	795.1	795.2	0.1
AJ	7.42	175	744[2]	5.2[2]	799.3	799.3	799.4	0.1
AK	7.94	310	1708[2]	2.1[2]	809.2	809.2	809.3	0.1
AL	8.20	130	561[2]	6.4[2]	811.3	811.3	811.3	0.0
AM	8.30	250	1780[2]	2.0[2]	817.3	817.3	817.3	0.0
AN	8.52	300	1597[2]	2.3[2]	818.3	818.3	818.3	0.0
AO	8.64	210	1404	2.6	821.6	821.6	821.6	0.0
AP	8.71	214	1301	2.8	823.0	823.0	823.0	0.0
AQ	8.80	251	1010	3.6	823.7	823.7	823.7	0.0
AR	8.96	350	1463[2]	1.7[2]	825.2	825.2	825.3	0.1
AS	9.03	359	1578	1.6	825.3	825.3	825.4	0.1
AT	9.25	275	1052[2]	2.4[2]	826.7	826.7	826.8	0.1
AU	9.43	283	485	5.2	829.7	829.7	829.8	0.1
AV	9.76	175	511	2.7	838.5	838.5	838.6	0.1
AW	9.82	154	411	2.9	839.1	839.1	839.2	0.1
AX	9.97	220	1155	1.0	844.2	844.2	844.2	0.0
AY	10.23	57	294	4.0	844.3	844.3	844.3	0.0

[1]MILES ABOVE MOUTH
[2]APPROXIMATE VALUES

REVISED: 6/3/88

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOODWAY DATA

CROOKED CREEK

BEST COPY AVAILABLE

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
CROOKED CREEK								
AZ	10.83	130	393	2.4	857.3	857.3	857.4	0.1
BA	11.01	26	94	10.1	859.7	859.7	859.7	0.0
BB	11.12	159	462	2.1	864.5	864.5	864.5	0.0
CHURCHMAN CREEK								
A	0.02[2]	60	537[4]	3.9[4]	802.2	802.2	802.2	0.0
B	0.08[2]	110	290[4]	7.3[4]	802.9	802.9	803.0	0.1
C	0.19[2]	261	603[4]	3.5[4]	808.0	808.0	808.0	0.0
D	0.27[2]	155	544[4]	3.9[4]	809.5	809.5	809.5	0.0
E	0.75[2]	150	508	4.1	818.1	818.1	818.2	0.1
F	1.02[2]	195	543	3.7	824.2	824.2	824.3	0.1
DELAWARE CREEK								
A	0.18[3]	275	450[4]	2.9[4]	834.8	834.8	834.8	0.0
B	0.42[3]	120	371[4]	3.5[4]	838.3	838.3	838.3	0.0
C	0.46[3]	60	256[4]	5.1[4]	840.3	840.3	840.3	0.0
D	0.51[3]	180	765[4]	1.6[4]	840.9	840.9	840.9	0.0
E	0.95[3]	90	316[4]	3.9[4]	841.8	841.8	841.9	0.1
F	1.28[3]	150	251[4]	4.2[4]	845.1	845.1	845.1	0.0
G	1.30[3]	90	165[4]	6.4[4]	845.3	845.3	845.3	0.0
DEVON CREEK								
A	0.48	153	336	7.1	739.5	739.5	739.5	0.0
B	0.56	186	537	4.4	742.0	742.0	742.0	0.0

[1] MILES ABOVE MOUTH
[2] MILES ABOVE CONFLUENCE WITH BEECH CREEK
[3] MILES ABOVE CONFLUENCE WITH CROOKED CREEK
[4] APPROXIMATE VALUES

REVISED: 6/3/88

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOODWAY DATA

CROOKED CREEK - CHURCHMAN CREEK - DELAWARE CREEK - DEVON CREEK

BEST COPY AVAILABLE

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
EAGLE CREEK								
A	1.00	510	1316[2]	10.5[2]	681.1	677.2[3]	677.2	0.0
B	3.53	240	1948[2]	7.1[2]	691.5	691.5	691.5	0.0
C	3.78	640	2421[2]	5.7[2]	693.0	693.0	693.0	0.0
D	4.10	360	1554[2]	7.9[2]	696.0	696.0	696.0	0.0
E	4.30	270	1721[2]	7.1[2]	697.1	697.1	697.1	0.0
F	8.50	400	3623[2]	3.4[2]	724.7	724.7	724.8	0.1
G	8.75	330	1864[2]	6.6[2]	725.1	725.1	725.2	0.1
H	8.79	290	1715[2]	7.2[2]	725.3	725.3	725.3	0.0
I	9.00	440	1413[2]	8.7[2]	730.0	730.0	730.0	0.0
J	9.25	180	2520[2]	4.3[2]	733.7	733.7	733.7	0.0
K	9.32	180	1789[2]	6.9[2]	733.9	733.9	733.9	0.0
L	10.02	150	1826	6.7	737.7	737.7	737.7	0.0
M	10.07	209	1841	6.7	738.1	738.1	738.1	0.0
N	10.11	215	1939	7.7	738.5	738.5	738.5	0.0
O	11.74	200	1985[2]	7.6[2]	745.6	745.6	745.6	0.0
P	11.78	220	1848[2]	8.1[2]	746.1	746.1	746.2	0.1
Q	12.29	212	1421[2]	10.6	751.4	751.4	751.4	0.0
R	12.36	261	1798[2]	8.3[2]	753.1	753.1	753.1	0.0
S	12.42	211	1966	7.6	753.8	753.8	753.8	0.0
T	12.46	380	1940[2]	7.7[2]	754.1	754.1	754.1	0.0

[1]MILES ABOVE CONFLUENCE WITH WHITE RIVER
[2]APPROXIMATE VALUES
[3]ELEVATIONS WITHOUT CONSIDERING BACKWATER EFFECT FROM WHITE RIVER

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOODWAY DATA

EAGLE CREEK

BEST COPY AVAILABLE

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC.)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET)
LITTLE EAGLE CREEK								
A	0.03	300	2206	4.4	698.9	698.9	699.0	0.1
B	0.07	102	964	10.0	698.9	698.9	699.0	0.1
C	0.11	130	1049	9.2	699.1	699.1	699.3	0.2
D	0.16	67	706	13.6	699.1	699.1	699.3	0.2
E	0.20	56	543	17.7	699.9	699.9	700.0	0.1
F	0.51	300	1268	7.6	707.0	707.0	707.0	0.0
G	0.78	290	2041	4.7	708.8	708.8	708.9	0.1
H	0.81	183	2078	4.6	708.9	708.9	709.0	0.1
I	1.02	168	1296	7.4	709.1	709.1	709.1	0.0
J	1.14	221	876	11.0	711.3	711.3	711.3	0.0
K	1.17	135	1066	9.0	713.8	713.8	713.8	0.0
L	1.44	402	1940	4.9	716.7	716.7	716.7	0.0
M	1.72	149	1585	6.1	721.7	721.7	721.7	0.0
N	2.06	366	3647	2.0	726.6	726.6	726.6	0.0
O	2.28	390	3118	2.3	726.7	726.7	726.7	0.0
P	2.46	428	2522	2.9	727.8	727.8	727.8	0.0
Q	2.67	275	2094	3.4	728.6	728.6	728.6	0.0
R	2.90	344	2218	3.2	730.1	730.1	730.1	0.0
S	3.08	242	1529	4.7	730.9	730.9	730.9	0.0
T	3.23	454	3104	2.3	732.5	732.5	732.5	0.0
U	3.34	357	3073	2.3	733.0	733.0	733.0	0.0
V	3.48	401	2761	1.7	733.3	733.3	733.3	0.0
W	3.53	538	2885	1.6	734.1	734.1	734.1	0.0
X	3.72	87	563	8.2	734.1	734.1	734.2	0.1
Y	3.93	142	1068	4.3	737.5	737.5	737.6	0.1
Z	3.97	162	1193	3.9	738.4	738.4	738.5	0.1

[1]MILES ABOVE CONFLUENCE WITH EAGLE CREEK

REVISED: 6/3/88

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN

(MARION CO.)

FLOODWAY DATA

LITTLE EAGLE CREEK

BEST COPY AVAILABLE

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
LITTLE EAGLE CREEK								
AA	4.05	376	2449	1.9	738.9	738.9	739.0	0.1
AB	4.11	350	445	10.3	738.9	738.9	739.0	0.1
AC	4.15	300	1293	3.6	741.5	741.5	741.5	0.0
AD	4.59	636	2411	1.9	743.5	743.5	743.5	0.0
AE	4.90	1080	521	8.8	744.8	744.8	744.8	0.0
AF	4.94	700	792	5.8	747.9	747.9	747.9	0.0
AG	5.30	213	1496	3.1	750.6	750.6	750.6	0.0
AH	5.35	160	1093	4.2	750.8	750.8	750.9	0.1
AI	5.42	175	1551	3.0	751.2	751.2	751.3	0.1
AJ	5.50	226	1686	2.7	751.4	751.4	751.5	0.1
AK	5.56	174	1476	3.1	751.5	751.5	751.6	0.1
AL	5.63	193	1147	4.0	751.7	751.7	751.8	0.1
AM	5.66	202	1224	3.8	751.8	751.8	751.9	0.1
AN	7.81	120	586	6.1	777.0	777.0	777.1	0.1
AO	7.84	379	903	4.0	778.9	778.9	778.9	0.0
AP	8.25	290	1139	3.2	785.0	785.0	785.1	0.1
AQ	8.51	137	700	5.1	788.5	788.5	788.6	0.1
AR	8.55	168	832	4.3	789.9	789.9	789.9	0.0
AS	8.78	174	914	3.4	792.1	792.1	792.2	0.1
AT	8.93	208	1387	2.2	793.0	793.0	793.1	0.1
AU	8.97	229	1560	2.0	793.4	793.4	793.5	0.1
AV	9.07	44	261	11.9	793.4	793.4	793.5	0.1
AW	9.11	194	933	3.3	799.2	799.2	799.2	0.0
AX	9.40	252	775	3.4	801.4	801.4	801.4	0.0
AY	9.62	192	520	5.0	805.0	805.0	805.0	0.0
AZ	9.66	184	969	2.7	809.0	809.0	809.0	0.0

[1]MILES ABOVE CONFLUENCE WITH EAGLE CREEK
[2]APPROXIMATE VALUES

REVISED: 6/3/88

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOODWAY DATA

LITTLE EAGLE CREEK

BEST COPY AVAILABLE

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION[2] AREA (SQ. FEET)	MEAN[2] VELOCITY (FEET/SEC.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
LITTLE EAGLE CREEK								
BA	9.73	97	552	4.7	809.2	809.2	809.2	0.0
BB	9.77	106	744	3.5	811.0	811.0	811.0	0.0
BC	9.89	359	2064	0.8	811.3	811.3	811.3	0.0
BD	9.92	212	727	2.2	811.5	811.5	811.5	0.0
BE	10.29	100	672	2.4	812.8	812.8	812.8	0.0
BF	10.33	70	1319	1.2	814.7	814.7	814.7	0.0
BG	10.75	100	860	1.9	815.9	815.9	815.9	0.0
BH	11.03	180	407	3.4	820.9	820.9	820.9	0.0
BI	11.09	80	376	3.7	824.5	824.5	824.5	0.0
BJ	11.15	120	934	1.5	828.2	828.2	828.2	0.0
BK	11.20	110	858	1.6	828.4	828.4	828.4	0.0
BL	11.29	220	1644	0.9	831.5	831.5	831.5	0.0
BM	11.42	150	1225	1.1	831.6	831.6	831.6	0.0
BN	11.51	140	1109	1.2	833.1	833.1	833.1	0.0
BO	11.64	250	356	3.7	834.6	834.6	834.7	0.1
BP	11.76	250	789	1.6	835.9	835.9	836.0	0.1
BQ	11.80	400	1231	1.1	836.2	836.2	836.3	0.1
BR	12.05	450	403	2.6	840.7	840.7	840.7	0.0

[1]MILES ABOVE CONFLUENCE WITH EAGLE CREEK
[2]APPROXIMATE VALUES

REVISED: 6/3/88

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOODWAY DATA

LITTLE EAGLE CREEK

BEST COPY AVAILABLE

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION[2] AREA (SQ. FEET)	MEAN[2] VELOCITY (FEET/SEC.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
FALCON CREEK								
A	0.08	100	417	5.3	733.0	732.1[3]	732.2	0.1
B	0.25	230	849	2.6	734.6	734.6	734.7	0.1
C	0.40	360	1139	1.9	735.2	735.2	735.3	0.1
D	0.64	190	390	5.1	739.3	739.3	739.3	0.0
E	0.82	230	875	2.3	740.8	740.8	740.8	0.0
F	0.96	120	341	5.9	741.4	741.4	741.5	0.1
G	0.98	130	539	3.5	743.2	743.2	743.3	0.1
H	1.21	90	165	11.5	745.1	745.1	745.1	0.0
I	1.28	95	544	3.5	749.8	749.8	749.8	0.0
J	1.49	46	196	8.9	751.8	751.8	751.9	0.1
K	1.84	428	999	1.7	756.4	756.4	756.5	0.1
L	2.13	110	437	3.[illegible]	759.0	759.0	759.1	0.1
M	2.27	319	586	2.7	761.5	761.5	761.5	0.0
N	2.29	561	1224	1.3	763.1	763.1	763.1	0.0
O	2.39	397	374	4.0	764.6	764.6	764.6	0.0
P	2.47	190	443	3.4	766.2	766.2	766.2	0.0
Q	2.58	227	422	3.6	768.6	768.6	768.7	0.1
R	2.71	400	598	2.4	771.7	771.7	771.8	0.1
S	3.00	249	657	2.1	775.7	775.7	775.7	0.0
T	3.17	160	384	3.1	778.1	778.1	778.1	0.0
U	3.26	93	294	4.1	780.4	780.4	780.4	0.0
V	3.35	196	398	3.0	783.1	783.1	783.2	0.1
W	3.38	159	433	2.5	784.3	784.3	784.4	0.1
X	3.54	81	265	4.2	787.9	787.9	788.0	0.1
Y	3.70	168	451	2.4	791.4	791.4	791.5	0.1
Z	3.85	150	317	3.2	794.4	794.4	794.5	0.1
AA	4.01	250	506	2.0	797.8	797.8	797.9	0.1

[1]MILES ABOVE CONFLUENCE WITH LITTLE EAGLE CREEK
[2]APPROXIMATE VALUES
[3]ELEVATION WITHOUT CONSIDERING BACKWATER EFFECT FROM LITTLE EAGLE CREEK

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOODWAY DATA

FALCON CREEK

BEST COPY AVAILABLE

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION[2] AREA (SQ. FEET)	MEAN[2] VELOCITY (FEET/SEC.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
FALL CREEK								
A	0.70	500	3299	4.8	693.1	693.1	693.2	0.1
B	0.74	350	3542	4.8	693.3	693.3	693.4	0.1
C	1.31	520	3415	4.7	694.5	694.5	694.6	0.1
D	1.48	450	2198	7.3	694.5	694.5	694.6	0.1
	2.00	310	1657	9.7	697.9	697.9	698.0	0.1
I	2.06	300	3330	4.8	699.6	699.6	699.7	0.1
G	2.34	300	2575	6.2	700.0	700.0	700.1	0.1
H	2.56	280	1772	9.0	700.5	700.5	700.6	0.1
I	2.61	300	2521	6.3	702.6	702.6	702.7	0.1
J	2.71	240	2275	7.9	703.1	703.1	703.2	0.1
K	2.80	200	2403	6.7	704.0	704.0	704.1	0.1
L	2.88	330	2682	6.0	704.7	704.7	704.7	0.0
M	3.29	270	2908	5.5	707.3	707.3	707.4	0.1
N	3.42	270	3044	5.3	707.8	707.8	707.9	0.1
O	3.53	300	3688	4.3	708.2	708.2	708.3	0.1
P	3.80	180	3028	5.3	709.1	709.1	709.2	0.1
Q	3.99	380	2916	5.5	710.1	710.1	710.2	0.1
R	4.27	590	3506	4.6	711.3	711.3	711.4	0.1
S	4.52	590	2547	6.3	712.3	712.3	712.4	0.1
T	4.90	570	3069	5.2	714.1	714.1	714.2	0.1
U	5.38	360	3070	5.2	716.1	716.1	716.2	0.1
V	5.68	410	3673	4.4	717.2	717.2	717.3	0.1
W	5.86	400	4379	3.7	717.8	717.8	717.9	0.1
X	5.98	400	3692	4.3	718.1	718.1	718.2	0.1
Y	6.10	430	2481	6.4	719.2	719.2	719.3	0.1
Z	6.37	220	2644	6.1	721.8	721.8	721.9	0.1

[1] MILES ABOVE CONFLUENCE WITH WHITE RIVER
[2] APPROXIMATE VALUES

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOODWAY DATA

FALL CREEK

BEST COPY AVAILABLE

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
FALL CREEK								
AA	6.60	360	2939[2]	5.4[2]	723.4	723.4	723.5	0.1
AB	7.00	320	2443[2]	5.4[2]	728.7	728.7	728.8	0.1
AC	7.33	350	2643[2]	5.0[2]	730.9	730.9	731.0	0.1
AD	7.55	650	3624[2]	3.6[2]	731.9	731.9	732.0	0.1
AE	7.62	700	5114	2.6	732.1	732.1	732.2	0.1
AF	8.19	1200	5732[2]	2.3[2]	734.2	734.2	734.2	0.0
AG	8.68	480	5015[2]	2.6[2]	735.9	735.9	736.0	0.1
AH	9.08	350	2863	4.6	736.9	736.9	737.0	0.1
AI	9.59	1000	3308[2]	4.4[2]	738.9	738.9	739.0	0.1
AJ	9.77	370	1862[2]	7.1[2]	739.3	739.3	739.4	0.1
AK	10.84	1190	4848[2]	2.7[2]	745.6	745.6	745.7	0.1
AL	11.49	530	3576[2]	3.7[2]	747.7	747.7	747.8	0.1
AM	11.99	400	3895[2]	3.4[2]	748.9	748.9	749.0	0.1
AN	12.11	380	2649	5.0	749.3	749.3	749.4	0.1
AO	12.31	480	3289	4.0	750.5	750.5	750.6	0.1
AP	12.61	400	4005	3.3	751.3	751.3	751.4	0.1
AQ	13.33	1003	7073	1.9	752.8	752.8	752.9	0.1
AR	14.06	1209	7748	1.5	754.0	754.0	754.1	0.1
AS	14.51	1100	6098	2.0	755.0	755.0	755.1	0.1
AT	15.34	1140	2695[2]	4.4[2]	758.5	758.5	758.6	0.1
AU	15.77	868	4303	2.8	761.1	761.1	761.2	0.1
AV	16.32	760	5662	2.1	762.2	762.2	762.3	0.1
AW	16.77	550	2022	5.9	763.4	763.4	763.5	0.1
AX	17.56	675	4094	2.9	765.7	765.7	765.8	0.1

[1]MILES ABOVE CONFLUENCE WITH WHITE RIVER
[2]APPROXIMATE VALUES

REVISED: 6/3/88

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOODWAY DATA

FALL CREEK

BEST COPY AVAILABLE

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION[3] AREA (SQ. FEET)	MEAN[3] VELOCITY (FEET/SEC.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
FISHER CREEK								
A	0.10	400	1115	1.9	833.3	830.4[4]	830.5	0.1
B	0.31	100	350	5.7	833.3	832.3[4]	832.3	0.0
C	0.53	1080	4550	0.4	839.1	839.1	839.2	0.1
D	0.78	750	3981	0.5	839.3	839.3	839.4	0.1
E	0.95	400	2805	0.6	843.2	843.2	843.3	0.1
GUION CREEK								
A	0.25[2]	150	584	4.3	755.5	755.5	755.6	0.1
B	0.55[2]	284	721	3.5	761.9	761.9	762.0	0.1
C	0.95[2]	190	458	5.0	766.8	766.8	766.9	0.1
D	0.97[2]	200	2027	1.1	772.9	772.9	773.0	0.1
E	1.16[2]	250	1874	1.2	773.1	773.1	773.2	0.1
F	1.19[2]	264	1399	1.6	773.2	773.2	773.3	0.1
G	1.30[2]	200	1076	2.1	773.3	773.3	773.4	0.1
H	1.33[2]	160	773	2.9	773.8	773.8	773.9	0.1
I	1.47[2]	110	222	9.2	774.6	774.6	774.7	0.1
J	1.50[2]	120	763	2.7	776.7	776.7	776.8	0.1
K	1.59[2]	167	549	3.7	777.1	777.1	777.2	0.1
L	1.62[2]	200	768	2.7	777.7	777.7	777.8	0.1
M	1.64[2]	100	681	3.0	777.8	777.8	777.9	0.1
N	1.91[2]	130	666	2.6	780.0	780.0	780.1	0.1
O	2.06[2]	100	518	3.3	782.3	782.3	782.4	0.1
P	2.09[2]	120	397	3.8	784.6	784.6	784.6	0.0
Q	2.32[2]	120	397	3.8	785.4	785.4	785.4	0.0
R	2.69[2]	130	401	3.3	788.7	788.7	788.8	0.1
S	2.73[2]	190	602	2.2	790.5	790.5	790.5	0.0
T	3.07[2]	70	557	2.2	791.9	791.9	792.0	0.1

[1]MILES ABOVE CONFLUENCE WITH LICK CREEK
[2]MILES ABOVE CONFLUENCE WITH LITTLE EAGLE CREEK
[3]APPROXIMATE VALUES
[4]ELEVATIONS WITHOUT CONSIDERING BACKWATER EFFECT FROM LICK CREEK

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOODWAY DATA

FISHER CREEK - GUION CREEK

BEST COPY AVAILABLE

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION[2] AREA (SQ. FEET)	MEAN[2] VELOCITY (FEET/SEC.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
GRASSY CREEK								
A	0.35	150	854	7.6	805.2	805.2	805.3	0.1
B	0.43	350	869	7.5	806.6	806.6	806.6	0.0
C	0.63	150	1352	4.1	810.6	810.6	810.7	0.1
D	0.93	350	2001	2.8	811.5	811.5	811.6	0.1
E	1.16	300	1448	3.9	812.1	812.1	812.2	0.1
F	1.39	300	1453	3.9	813.4	813.4	813.5	0.1
G	1.69	350	2062	2.7	815.6	815.6	815.7	0.1
H	1.77	300	1772	3.1	815.8	815.8	815.9	0.1
I	1.95	425	1806	3.0	817.1	817.1	817.2	0.1
J	2.17	300	1244	4.4	818.0	818.0	818.1	0.1
K	2.39	400	1266	4.2	820.2	820.2	820.3	0.1
L	2.50	560	1699	3.1	821.3	821.3	821.4	0.1
M	2.75	550	2532	1.8	822.4	822.4	822.5	0.1
N	3.04	550	911	5.0	823.2	823.2	823.3	0.1
O	3.32	1500	11,340	0.4	829.2	829.2	829.2	0.0
P	3.50	1060	4560	1.0	829.2	829.2	829.2	0.0
Q	3.77	1125	3957	1.1	829.4	829.4	829.4	0.0
R	4.13	982	3236	1.3	829.6	829.6	829.6	0.0
S	4.49	852	3370	1.2	829.9	829.9	829.9	0.0
T	4.66	862	2505	1.5	830.2	830.2	830.3	0.1
U	4.94	856	2590	1.4	831.0	831.0	831.1	0.1
V	5.36	327	1295	2.9	833.3	833.3	833.4	0.1
W	5.48	812	2755	0.9	833.7	833.7	833.8	0.1

[1]MILES ABOVE CONFLUENCE WITH BUCK CREEK
[2]APPROXIMATE VALUES

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOODWAY DATA

GRASSY CREEK

BEST COPY AVAILABLE

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
INDIAN CREEK								
A	1.54	542	2139	3.7	785.3	785.3	785.4	0.1
B	1.65	590	5326[2]	1.5[2]	786.4	786.4	786.5	0.1
C	2.04	304	2538	3.2	787.0	787.0	787.1	0.1
D	2.15	450	3767[2]	2.1[2]	788.1	788.1	788.2	0.1
E	2.39	429	1978	4.0	790.2	790.2	790.3	0.1
F	3.06	420	1932[2]	3.7[2]	799.8	799.8	799.9	0.1
G	3.71	420	2203[2]	3.3[2]	807.5	807.5	807.6	0.1
H	4.07	400	974[2]	7.4[2]	811.1	811.1	811.2	0.1
I	4.50	500	3556[2]	2.0[2]	816.5	816.5	816.5	0.0
J	4.66	480	1444	5.0	819.8	819.8	819.9	0.1
K	5.37	560	1902[2]	3.8[2]	822.9	822.9	823.0	0.1
L	5.66	372	2983	2.4	827.6	827.6	827.7	0.1
M	6.11	600	5335[2]	1.3[2]	829.8	829.8	829.9	0.1
N	6.22	400	2225[2]	3.2[2]	830.2	830.2	830.3	0.1
O	6.58	940	5212[2]	1.4[2]	831.6	831.6	831.7	0.1
P	6.82	340	1571[2]	4.1[2]	832.5	832.5	832.6	0.1
Q	7.03	730	3811[2]	1.5[2]	833.8	833.8	833.9	0.1
R	7.14	550	2374[2]	2.4[2]	834.4	834.4	834.5	0.1

[1] MILES ABOVE MOUTH
[2] APPROXIMATE VALUES

REVISED: 6/3/88

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOODWAY DATA

INDIAN CREEK

BEST COPY AVAILABLE

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION[2] AREA (SQ. FEET)	MEAN[2] VELOCITY (FEET/SEC.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
LICK CREEK								
A	0.72	972	2896	3.3	680.2	680.2	680.2	0.0
B	0.75	1920	2087	4.6	680.7	680.7	680.8	0.1
C	1.11	400	1883	5.1	684.5	684.5	684.6	0.1
D	1.49	381	2303	3.7	687.7	687.7	687.8	0.1
E	1.55	500	2167	4.4	687.8	687.8	687.9	0.1
F	1.87	400	2301	4.2	691.7	691.7	691.8	0.1
G	2.30	300	4274	2.2	696.8	696.8	696.8	0.0
H	2.63	125	1161	8.3	698.7	698.7	698.7	0.0
I	2.66	225	1374	6.1	700.9	700.9	700.9	0.0
J	2.86	250	1889	4.4	703.1	703.1	703.2	0.1
K	3.27	100	1267	6.7	708.2	708.2	708.3	0.1
L	3.35	80	3201	2.6	709.4	709.4	709.5	0.1
M	3.51	116	1060	7.9	709.7	709.7	709.8	0.1
N	3.69	100	1145	7.3	712.5	712.5	712.6	0.1
O	3.83	80	794	10.6	715.8	715.8	715.8	0.0
P	3.93	82	1169	6.5	720.9	720.9	721.0	0.1
Q	4.05	390[3]	2009	3.8	723.6	723.6	723.7	0.1
R	4.24	210	1284	5.9	724.8	724.8	724.9	0.1
S	4.60	400	2333	3.3	732.9	732.9	733.0	0.1
T	4.67	551	1740	4.4	734.3	734.3	734.3	0.0
U	4.78	425	2474	3.1	735.4	735.4	735.4	0.0
V	5.07	160	1398	5.4	740.3	740.3	740.3	0.0
W	5.50	375	1706	4.5	747.3	747.3	747.4	0.1
X	5.88	113	1107	6.1	751.0	751.0	751.1	0.1
Y	5.98	114	1186	5.8	752.1	752.1	752.2	0.1
Z	6.19	212	1470	4.8	755.0	755.0	755.1	0.1

[1]MILES ABOVE MOUTH
[2]APPROXIMATE VALUES
[3]COMBINED FLOODWAY WIDTH OF LICK CREEK AND LOWMAN CREEK

REVISED: 6/3/88

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOODWAY DATA

LICK CREEK

BEST COPY AVAILABLE

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION[2] AREA (SQ. FEET)	MEAN[2] VELOCITY (FEET/SEC.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
LICK CREEK								
AA	6.71	320	1396	3.8	762.8	762.8	762.8	0.0
AB	7.20	200	1284	4.1	769.8	769.8	769.9	0.1
AC	7.25	200	2139	2.5	771.6	771.6	771.7	0.1
AD	7.44	300	1995	2.7	772.3	772.3	772.4	0.1
AE	7.66	100	1134	4.7	781.2	781.2	781.2	0.0
AF	7.80	200	3944	1.3	783.6	783.6	783.6	0.0
AG	7.96	150	2974	1.6	785.7	785.7	785.7	0.0
AH	8.40	200	2337	2.1	792.9	792.9	792.9	0.0
AI	8.73	300	3402	1.3	797.8	797.8	797.8	0.0
AJ	9.02	220	2626	1.6	798.1	798.1	798.1	0.0
AK	9.33	290	2602	1.7	801.3	801.3	801.4	0.1
AL	9.66	280	2286	1.9	802.2	802.2	802.3	0.1
AM	9.95	200	1966	2.2	807.4	807.4	807.4	0.0
AN	10.25	125	1314	3.3	808.7	808.7	808.7	0.0
AO	10.52	50	524	7.5	813.6	813.6	813.6	0.0
AP	11.02	120	1011	3.6	820.0	820.0	820.0	0.0
AQ	11.26	67	493	7.3	823.6	823.6	823.6	0.0
AR	11.88	235	1511	2.4	830.3	830.3	830.4	0.1
AS	12.41	160	1167	1.6	833.5	833.5	833.6	0.1
AT	12.71	80	726	2.6	834.5	834.5	834.5	0.0
AU	13.06	300	638	3.0	838.4	838.4	838.5	0.1
AV	13.14	190	2377	0.8	841.0	841.0	841.1	0.1
AW	13.35	150	2265	0.8	843.0	843.0	843.1	0.1
AX	13.38	200	797	2.4	843.5	843.5	843.6	0.1
AY	13.65	300	574	3.3	844.4	844.4	844.5	0.1
AZ	13.71	500	2085	0.9	845.3	845.3	845.4	0.1

[1]MILES ABOVE MOUTH
[2]APPROXIMATE VALUES

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOODWAY DATA

LICK CREEK

BEST COPY AVAILABLE

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION[2] AREA (SQ. FEET)	MEAN[2] VELOCITY (FEET/SEC.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
LICK CREEK								
BA	13.96	240	899	2.1	848.0	848.0	848.0	0.0
BB	14.14	300	1054	1.8	850.8	850.8	850.8	0.0
BC	14.17	310	2903	0.7	854.4	854.4	854.4	0.0
BD	14.47	90	726	2.6	855.5	855.5	855.6	0.1
BE	14.97	201	547	3.5	859.6	859.6	859.7	0.1
BF	15.01	130	1417	1.3	861.9	861.9	861.9	0.0
BG	15.64	80	391	4.9	863.8	863.8	863.9	0.1
MUD CREEK								
A	0.10	500	902	2.8	753.0	750.4[3]	750.5	0.1
B	0.40	350	623	4.0	753.0	752.6[3]	752.7	0.1
C	0.75	450	1155	2.2	755.3	755.3	755.4	0.1
D	1.17	179	668	3.7	758.6	758.6	758.7	0.1
E	1.57	180	930	2.7	762.8	762.8	762.9	0.1
F	2.12	360	694	3.6	766.1	766.1	766.2	0.1
G	2.39	300	580	4.3	768.8	768.8	768.9	0.1
H	2.82	500	1241	2.0	771.4	771.4	771.5	0.1
I	3.08	410	844	3.0	773.2	773.2	773.3	0.1
J	3.30	400	957	2.6	774.8	774.8	774.9	0.1
K	4.04	620	632	4.0	778.2	778.2	778.3	0.1
L	4.43	370	905	2.8	781.1	781.1	781.2	0.1

[1]MILES ABOVE MOUTH
[2]APPROXIMATE VALUES
[3]ELEVATIONS WITHOUT CONSIDERING BACKWATER EFFECT FROM FALL CREEK

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOODWAY DATA

LICK CREEK - MUD CREEK

BEST COPY AVAILABLE

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
McFARLAND CREEK								
A	0.07	173	706	2.3	749.5	749.5	749.6	0.1
B	0.13	58	253	6.3	749.5	749.5	749.6	0.1
C	0.16	90	610	2.6	753.6	753.6	753.7	0.1
D	0.29	220	782	2.0	754.3	754.3	754.4	0.1
E	0.37	37	213	6.5	754.7	754.7	754.8	0.1
F	0.43	33	202	6.8	756.7	756.7	756.8	0.1
G	0.46	41	259	5.3	757.8	757.8	757.9	0.1
H	0.51	110	406	3.4	758.9	758.9	759.0	0.1
I	0.54	160	814	1.7	761.0	761.0	761.1	0.1
J	0.61	237	1143	1.2	763.3	763.3	763.4	0.1
K	0.69	82	449	3.1	765.8	765.8	765.9	0.1
L	0.73	46	256	5.4	767.0	767.0	767.1	0.1
M	0.94	79	251	3.2	772.7	772.7	772.8	0.1
N	1.02	79	129	6.2	777.8	777.8	777.8	0.0
O	1.19	75	215	3.7	785.0	785.0	785.1	0.1
P	1.55	53	180	4.0	801.3	801.3	801.4	0.1
Q	1.82	225	164	3.8	808.8	808.8	808.8	0.0
R	1.95	70	193	3.2	810.4	810.4	810.5	0.1
S	2.15	106	210	3.0	818.4	818.4	818.5	0.1
OIL CREEK								
A	0.03[2]	158	266	2.9	843.4	842.8[3]	842.9	0.1
B	0.18[2]	68	216	3.5	844.7	844.7	844.8	0.1
C	0.44[2]	112	222	2.9	850.6	850.6	850.7	0.1
D	0.85[2]	89	200	2.9	861.8	861.8	861.9	0.1
E	0.99[2]	43	129	4.5	865.3	865.3	865.4	0.1

[1]MILES ABOVE CONFLUENCE WITH LICK CREEK
[2]MILES ABOVE CONFLUENCE WITH PAYNE BRANCH
[3]ELEVATIONS WITHOUT CONSIDERING BACKWATER EFFECT FROM PAYNE BRANCH

REVISED 6/3/86

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOODWAY DATA

McFARLAND CREEK - OIL CREEK

BEST COPY AVAILABLE

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION[3] AREA (SQ. FEET)	MEAN[3] VELOCITY (FEET/SEC.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
STRANGE CREEK								
A	0.23	100	373	3.5	736.0	736.0	736.1	0.1
B	0.33	99	301	4.3	738.6	738.6	738.7	0.1
C	0.36	100	608	2.1	739.5	739.5	739.5	0.0
WILLIAMS CREEK								
A	0.31[2]	260	1003	8.1	722.2	713.1[4]	713.2	0.1
B	0.64[2]	210	1691	4.8	722.2	718.5[4]	718.6	0.1
C	0.86[2]	460	2991	2.1	727.1	727.1	727.2	0.1
D	1.11[2]	442	2969	2.7	732.5	732.5	732.5	0.0
E	1.51[2]	310	1049	7.7	736.5	736.5	736.5	0.0
F	1.88[2]	160	2307	3.5	746.8	746.8	746.8	0.0
G	2.34[2]	300	1001	8.1	753.0	753.0	753.0	0.0
H	2.74[2]	292	1139	7.1	759.2	759.2	759.3	0.1
I	3.00[2]	189	1628	5.0	764.4	764.4	764.5	0.1
J	3.19[2]	669	2089	3.9	768.1	768.1	768.4	0.3
K	3.50[2]	431	1824	4.4	775.3	775.3	775.4	0.1
L	3.96[2]	460	1594	3.3	781.6	781.6	781.6	0.0
M	4.32[2]	385	2925	1.8	789.2	789.2	789.3	0.1
N	4.88[2]	190	974	5.4	795.3	795.3	795.4	0.1
CAMP BRANCH								
A	0.07[2]	120	230	1.9	749.8	749.8	749.8	0.0
B	0.15[2]	100	61	7.2	750.7	750.7	750.7	0.0
C	0.22[2]	160	161	2.7	754.2	754.2	754.3	0.1

[1]MILES ABOVE CONFLUENCE WITH BAILEY CREEK
[2]MILES ABOVE MOUTH
[3]APPROXIMATE VALUES
[4]ELEVATIONS WITHOUT CONSIDERING BACKWATER EFFECT FROM WHITE RIVER

REVISED: 6/3/88

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOODWAY DATA

STRANGE CREEK - WILLIAMS CREEK - CAMP BRANCH

BEST COPY AVAILABLE

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION[3] AREA (SQ. FEET)	MEAN[3] VELOCITY (FEET/SEC.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
PAYNE BRANCH								
A	0.21	98	292	4.8	826.4	826.4	826.5	0.1
B	0.72	114	334	3.8	834.1	834.1	834.2	0.1
C	1.05	370	380	1.8	846.7	846.7	846.8	0.1
D	1.40	86	145	4.7	850.8	850.8	850.9	0.1
E	1.53	100	317	2.1	854.4	854.4	854.5	0.1
F	1.57	190	464	1.5	855.1	855.1	855.2	0.1
HOWLAND DITCH								
A	0.82[2]	230	3294	1.0	726.2	722.5[4]	722.5	0.0
B	0.89[2]	100	3297	1.0	726.2	722.5[4]	722.5	0.0
C	0.95[2]	100	1641	2.0	726.2	724.3[4]	724.3	0.0
D	1.23[2]	90	715	4.5	726.2	725.6[4]	725.7	0.1
E	1.78[2]	70	1024	2.7	730.5	730.5	730.6	0.1
F	2.17[2]	80	1526	1.8	735.3	735.3	735.4	0.1
G	2.35[2]	50	752	3.7	736.5	736.5	736.6	0.1
H	2.38[2]	200	1906	1.5	739.1	739.1	739.1	0.0
I	2.50[2]	210	605	4.6	739.5	739.5	739.5	0.0
J	2.62[2]	180	351	8.0	743.8	743.8	743.8	0.0
K	2.71[2]	230	1040	2.7	746.6	746.6	746.7	0.1
L	2.81[2]	160	819	3.4	748.3	748.3	748.4	0.1
M	2.89[2]	350	1719	1.5	749.0	749.0	749.1	0.1
N	2.99[2]	130	1179	2.1	750.3	750.3	750.3	0.0
O	3.16[2]	130	450	5.6	756.3	756.3	756.4	0.1
P	3.26[2]	120	2547	1.0	760.3	760.3	760.3	0.0

[1] MILES ABOVE CONFLUENCE WITH CROOKED CREEK
[2] MILES ABOVE MOUTH
[3] APPROXIMATE VALUES
[4] ELEVATIONS WITHOUT CONSIDERING OVERFLOW EFFECT FROM WHITE RIVER

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOODWAY DATA

PAYNE BRANCH - HOWLAND DITCH

BEST COPY AVAILABLE

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC.)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET)
HOWLAND DITCH								
Q	3.40	240	834	3.0	761.4	761.4	761.5	0.1
R	3.54	250	832	3.0	763.7	763.7	763.7	0.0
S	3.64	280	265	2.7	765.3	765.3	765.4	0.1
T	3.76	190	637	3.7	767.7	767.7	767.8	0.1
U	3.88	200	654	3.3	770.3	770.3	770.4	0.1
V	4.09	200	668	3.2	775.2	775.2	775.2	0.0
W	4.28	200	702	3.1	780.2	780.2	780 3	0.1
X	4.47	230	1002	2.1	784.5	784.5	784.6	0.1
Y	4.61	160	604	3.4	786.6	786.6	786.7	0.1
Z	4.67	150	560	3.1	788.0	788.0	788.0	0.0
AA	4.75	140	331	5.3	789.1	789.1	789.1	0.0
AB	4.81	150	696	2.5	792.4	792.4	792.4	0.0
AC	4.85	180	779	2.2	792.6	792.6	792.7	0.1
AD	4.99	130	377	4.6	793.6	793.6	793.7	0.1
AE	5.05	190	606	2.5	794.5	794.5	794.6	0.1

[1]MILES ABOVE MOUTH

REVISED: 6/3/88

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOODWAY DATA

HOWLAND DITCH

BEST COPY AVAILABLE

FLOODINC SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION[2] AREA (SQ. FEET)	MEAN[2] VELOCITY (FEET/SEC.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
DRY RUN								
A	0.16	86	356	3.5	718.6	717.1[3]	717.2	0.1
B	0.30	90	320	3.9	719.2	719.1[3]	719.2	0.1
C	0.48	164	411	3.0	722.0	721.9[3]	722.0	0.1
D	0.67	80	211	4.5	726.5	726.0[3]	726.0	0.0
E	0.74	120	1002	0.9	726.4	726.4	726.5	0.1
F	0.97	131	372	2.6	727.0	727.0	727.1	0.1
G	1.16	220	1887	0.4	732.6	732.6	732.7	0.1
H	1.33	60	544	1.3	732.7	732.7	732.8	0.1
I	1.75	60	102	3.8	733.3	733.3	733.4	0.1
J	1.93	70	113	3.5	735.0	735.0	735.0	0.0
K	2.14	90	98	4.0	737.4	737.4	737.4	0.0
L	2.34	120	229	1.7	741.5	741.5	741.5	0.0
M	2.46	100	588	4.1	744.7	744.7	744.7	0.0
N	2.75	300	1049	2.3	750.4	750.4	750.4	0.0
O	2.79	260	1131	2.1	750.7	750.7	750.7	0.0
P	3.15	460	845	2.8	753.1	753.1	753.1	0.0
Q	3.39	150	726	3.3	755.9	755.9	756.0	0.1
R	3.57	120	446	4.9	759.0	759.0	759.1	0.1
S	3.76	90	522	4.2	762.5	762.5	762.6	0.1
T	3.86	186	659	3.3	763.4	763.4	763.5	0.1
U	4.11	90	434	3.9	766.1	766.1	766.2	0.1
V	4.29	80	423	4.0	770.3	770 3	770.4	0.1
W	4.50	80	250	3.8	771.8	771.8	771.9	0.1
X	4.60	80	139	6.8	773.4	773.4	773.4	0.0
Y	4.83	80	99	9.5	777.1	777.1	777.1	0.0
Z	5.02	80	197	4.1	783.5	783.5	783.5	0.0

[1]MILES ABOVE CONFLUENCE WITH LITTLE EAGLE CREEK
[2]APPROXIMATE VALUES
[3]ELEVATIONS WITHOUT CONSIDERING OVERFLOW EFFECT FROM LITTLE EAGLE CREEK

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOODWAY DATA

DRY RUN

BEST COPY AVAILABLE

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION[3] AREA (SQ. FEET)	MEAN[3] VELOCITY (FEET/SEC.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
DRY RUN								
AA	5.27	120	401	2.0	794.5	794.5	794.5	0.0
AB	5.45	660	116	7.0	797.5	797.5	797.5	0.0
AC	5.49	200	1513	0.5	800.2	800.2	800.2	0.0
AD	5.57	150	592	1.4	800.3	800.3	800.3	0.0
DRY RUN DIVERSION DITCH								
A	0.06[2]	70	869	3.3	732.6	731.2[4]	731.3	0.1
B	0.31[2]	60	469	6.2	734.9	734.9	734.9	0.0
C	0.44[2]	70	548	5.3	736.7	736.7	736.7	0.0
D	0.72[2]	80	614	4.7	738.3	738.3	738.4	0.1
E	0.88[2]	80	872	2.8	739.4	739.4	739.5	0.1
F	1.21[2]	110	271	0.8	740.6	740.6	740.7	0.1
SLOAN DITCH								
A	0.15[2]	100	135	3.0	826.9	826.9	827.0	0.1
B	0.22[2]	83	220	1.9	828.9	828.9	828.9	0.0
C	0.43[2]	81	142	2.9	836.9	836.9	837.0	0.1
D	0.81[2]	110	214	6.3	839.1	839.1	839.1	0.0
E	1.10[2]	110	837	1.6	843.3	843.3	843.3	0.0
F	1.32[2]	100	803	1.2	844.6	844.6	844.6	0.0
G	1.54[2]	70	280	3.6	846.9	846.9	847.0	0.1

[1]MILES ABOVE CONFLUENCE WITH LITTLE EAGLE CREEK
[2]MILES ABOVE MOUTH
[3]APPROXIMATE VALUES
[4]ELEVATIONS WITHOUT CONSIDERING BACKWATER EFFECT FROM LITTLE EAGLE CREEK

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOODWAY DATA

DRY RUN - DRY RUN DIVERSION DITCH - SLOAN DITCH

BEST COPY AVAILABLE

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION[2] AREA (SQ. FEET)	MEAN[2] VELOCITY (FEET/SEC.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
PLEASANT RUN								
A	0.39	250	1582	5.2	684.5	682.5[3]	682.6	0.1
B	0.42	270	2061	4.0	684.5	684.1[3]	684.2	0.1
C	0.52	253	1720	4.8	684.5	684.4[3]	684.5	0.1
D	0.72	314	1418	5.9	685.4	685.4	685.5	0.1
E	0.98	140	920	10.1	689.3	689.3	689.4	0.1
F	1.18	180	1183	7.0	692.2	692.2	692.2	0.0
G	1.45	150	1177	7.1	695.8	695.8	695.8	0.0
H	1.59	139	1192	7.0	703.3	703.3	703.3	0.0
I	1.75	350	1555	4.1	706.6	706.6	706.6	0.0
J	1.89	600	3926	1.6	710.1	710.1	710.2	0.1
K	2.04	498	2326	2.8	710.3	710.3	710.4	0.1
L	2.18	115	1024	6.2	710.5	710.5	710.6	0.1
M	2.44	170	1242	5.2	714.1	714.1	714.1	0.0
N	2.67	150	1124	5.7	717.1	717.1	717.2	0.1
O	2.78	184	1177	5.4	719.8	719.8	719.9	0.1
P	2.92	125	1014	6.3	721.2	721.2	721.3	0.1
Q	3.25	127	1444	4.4	728.1	728.1	728.1	0.0
R	3.50	130	2048	3.0	731.8	731.8	731.8	0.0
S	3.58	190	1251	4.8	731.9	731.9	731.9	0.0
T	3.63	150	1982	3.1	734.0	734.0	734.0	0.0
U	3.70	170	1572	3.8	734.3	734.3	734.3	0.0
V	3.82	110	1510	4.0	735.0	735.0	735.0	0.0
W	3.98	200	698	8.7	735.5	735.5	735.5	0.0
X	4.04	297	1600	3.8	746.8	746.8	746.8	0.0
Y	4.18	450	1709	3.5	747.8	747.8	747.8	0.0
Z	4.59	97	775	7.8	752.6	752.6	752.7	0.1

[1]MILES ABOVE CONFLUENCE WITH WHITE RIVER
[2]APPROXIMATE VALUES
[3]ELEVATIONS WITHOUT CONSIDERING BACKWATER EFFECT FROM WHITE RIVER

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOODWAY DATA

PLEASANT RUN

BEST COPY AVAILABLE

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION[2] AREA (SQ. FEET)	MEAN[2] VELOCITY (FEET/SEC.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
PLEASANT RUN								
AA	4.85	530	1823	3.0	757.0	757.0	757.0	0.0
AB	4.94	650	1799	3.1	757.4	757.4	757.4	0.0
AC	5.37	426	1128	4.6	761.1	761.1	761.2	0.1
AD	5.86	120	840	6.2	767.9	767.9	768.0	0.1
AE	6.31	100	762	6.8	773.0	773.0	773.1	0.1
AF	6.35	70	739	7.0	775.6	775.6	775.6	0.0
AG	6.74	120	1843	2.8	783.6	783.6	783.6	0.0
AH	7.00	80	2832	2.0	784.4	784.4	784.4	0.0
AI	7.19	280	901	4.9	786.0	786.0	796.0	0.0
AJ	7.29	90	729	6.0	787.1	787.1	787.1	0.0
AK	7.72	300	1278	3.4	792.1	792.1	792.2	0.1
AL	7.92	340	1074	4.1	795.5	795.5	795.5	0.0
AM	8.32	300	1383	3.2	800.8	800.8	800.8	0.0
AN	8.60	300	843	4.2	803.4	803.4	803.5	0.1
AO	8.92	270	508	6.9	811.4	811.4	811.5	0.1
AP	9.53	240	1001	2.7	817.7	817.7	817.8	0.1
AQ	9.96	128	388	7.0	824.2	824.2	824.2	0.0
AR	10.50	90	337	6.5	829.4	829.4	829.4	0.0
AS	11.05	80	294	5.4	842.7	842.7	842.7	0.0
AT	11.14	525	615	2.6	846.0	846.0	846.0	0.0
AU	11.30	347	901	1.8	847.5	847.5	847.5	0.0

[1]MILES ABOVE CONFLUENCE WITH WHITE RIVER
[2]APPROXIMATE VALUES

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOODWAY DATA

PLEASANT RUN

BEST COPY AVAILABLE

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION[2] AREA (SQ. FEET)	MEAN[2] VELOCITY (FEET/SEC.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
POGUES RUN								
A	2.28	150	946	4.9	721.1	721.1	721.2	0.1
B	2.34	280	1774	2.6	722.4	722.4	722.5	0.1
C	2.44	290	1445	3.2	722.6	722.6	722.7	0.1
D	2.51	260	1201	3.8	722.6	722.6	722.7	0.1
E	2.64	232	1228	3.7	723.3	723.3	723.4	0.1
F	2.81	306	1436	3.2	724.2	724.2	724.3	0.1
G	2.96	239	908	5.1	724.8	724.8	724.9	0.1
H	3.07	270	898	5.1	726.8	726.8	726.9	0.1
I	3.21	280	1090	4.2	728.6	728.6	728.7	0.1
J	3.30	200	1132	4.1	729.9	729.9	730.0	0.1
K	3.42	210	944	4.9	730.7	730.7	730.8	0.1
L	3.55	140	665	6.9	731.8	731.8	731.9	0.1
M	3.66	140	572	8.0	733.5	733.5	733.6	0.1
N	3.72	60	554	8.3	734.5	734.5	734.6	0.1
O	3.96	80	649	7.1	738.3	738.3	738.3	0.0
P	4.00	80	642	6.2	741.1	741.1	741.2	0.1
Q	4.12	85	690	5.8	741.9	741.9	741.9	0.0
R	4.27	140	516	7.7	746.5	746.5	746.5	0.0
S	4.69	99	545	7.3	751.1	751.1	751.1	0.0
T	4.96	60	608	6.6	754.6	754.6	754.7	0.1
U	5.24	100	621	6.4	760.5	760.5	760.7	0.2
V	5.58	80	243	2.3	767.4	767.4	767.4	0.0
W	5.67	97	487	6.2	774.5	774.5	774.5	0.0
X	5.87	130	311	9.6	780.8	780.8	780.9	0.1
Y	6.19	100	734	4.1	790.1	790.1	790.2	0.1
Z	6.54	110	496	5.6	797.1	797.1	797.1	0.0

[1]MILES ABOVE CONFLUENCE WITH WHITE RIVER
[2]APPROXIMATE VALUES

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOODWAY DATA

POGUES RUN

BEST COPY AVAILABLE

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION[2] AREA (SQ. FEET)	MEAN[2] VELOCITY (FEET/SEC.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
POGUES RUN								
AA	6.67	160	570	4.9	800.0	800.0	800.0	0.0
AB	6.92	197	769	3.6	803.8	803.8	803.9	0.1
AC	7.14	180	862	2.9	807.4	807.4	807.5	0.1
AD	7.45	80	457	5.6	810.4	810.4	810.5	0.1
AE	7.85	700	741	2.9	822.6	822.6	822.6	0.0
AF	8.23	250	1007	2.1	826.3	826.3	826.4	0.1
AG	8.80	131	275	5.8	836.4	836.4	836.5	0.1

[1]MILES ABOVE CONFLUENCE WITH WHITE RIVER
[2]APPROXIMATE VALUES

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOODWAY DATA

POGUES RUN

BEST COPY AVAILABLE

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC.)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET)
STATE DITCH								
A	0.25	610	2036	2.2	672.5	662.9[2]	663.0	0.1
B	0.35	343	1626	2.8	672.6	663.2[2]	663.3	0.1
C	0.58	410	1818	2.5	673.1	664.1[2]	664.2	0.1
D	0.62	431	1560	2.9	673.6	665.1[2]	665.1	0.0
E	1.14	1088	2744	1.6	674.2	666.0[2]	666.1	0.1
F	1.22	593	1192	3.8	674.4	666.2[2]	666.3	0.1
G	1.29	442	1309	2.4	674.6	666.8[2]	666.9	0.1
H	1.51	300	1745	2.6	674.9	673.7[2]	673.7	0.0
I	1.93	335	1300	3.5	678.3	678.3	678.3	0.0
J	2.22	396	2357	1.8	684.5	684.5	684.5	0.0
K	2.44	278	1336	3.1	685.8	685.8	685.9	0.1
L	2.67	237	1092	3.8	688.1	688.1	688.2	0.1
M[3]	2.97	50	–	–	692.8	692.8	–	–
N[3]	3.45	50	–	–	697.1	697.1	–	–
O[3]	3.83	50	–	–	699.7	699.7	–	–
P[3]	4.31	50	–	–	702.0	702.0	–	–

[1]MILES ABOVE MOUTH
[2]ELEVATIONS WITHOUT CONSIDERING OVERFLOW EFFECT FROM WHITE RIVER
[3]ADMINISTRATIVE FLOODWAY ESTABLISHED AT CROSS SECTION BY IDNR

REVISED: 6/3/88

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOODWAY DATA

STATE DITCH

BEST COPY AVAILABLE

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC.)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET)
SEERLEY CREEK								
A	0.18	51	247	5.1	695.3	695.3	695.4	0.1
B	0.30	74	315	4.0	699.1	699.1	699.2	0.1
C	0.50	54	275	4.5	701.2	701.2	701.3	0.1
D	0.60	68	338	3.7	702.6	702.6	702.7	0.1
E	0.70	50	228	5.5	703.9	703.9	704.0	0.1
F	0.90	97	299	4.2	709.5	709.5	709.5	0.0
G	1.00	68	309	4.0	713.7	713.7	713.7	0.0
H	1.22	97	346	3.6	717.9	717.9	718.0	0.1
I	1.30	60	207	6.0	719.0	719.0	719.1	0.1
J	1.52	104	318	3.9	723.6	723.6	723.7	0.1
K	1.60	60	172	7.3	725.8	725.8	725.9	0.1
L	1.75	82	269	4.6	732.1	732.1	732.2	0.1

[1]MILES ABOVE CONFLUENCE WITH STATE DITCH

REVISED: 6/3/88

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOODWAY DATA

SEERLEY CREEK

BEST COPY AVAILABLE

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC.)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET)
MARS DITCH								
A	465	53	268	5.2	697.0	697.0	697.1	0.1
B	1450	68	412	3.4	702.4	702.4	702.5	0.1
C	2345	97	512	2.7	704.4	704.4	704.5	0.1
D	3145	65	338	4.1	709.0	709.0	709.0	0.0
E	3915	63	317	4.4	712.0	712.0	712.0	0.0
F	4750	48	213	6.6	718.3	718.3	718.3	0.0
G	5380	61	272	5.2	723.4	723.4	723.5	0.1
DREXEL RUN								
H	5680	25	89	11.0	725.2	725.2	725.2	0.0
I	6550	63	312	3.1	732.5	732.5	732.5	0.0

[1]FEET ABOVE CONFLUENCE WITH STATE DITCH

REVISED: 6/3/86

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOODWAY DATA

MARS DITCH/DREXEL RUN

BEST COPY AVAILABLE

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC.)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET)
EAST FORK WHITE LICK CREEK								
A	10.95	860	2264	2.0	738.6	738.6	738.6	0.0
B	11.19	540	2122	2.1	740.7	740.7	740.7	0.0
C	11.46	146	1064	4.1	744.6	744.6	744.6	0.0
D	11.60	716	3934	1.1	745.9	745.9	746.0	0.1
E	11.83	770	3195	1.4	746.1	746.1	746.2	0.1
F	12.02	434	1715	2.6	746.9	746.9	747.0	0.1
G	12.32	663	2900	1.4	750.7	750.7	750.8	0.1
H	12.46	607	2072	2.0	751.0	751.0	751.1	0.1
I	12.63	571	2191	1.6	752.1	752.1	752.2	0.1
J	12.81	279	1195	2.9	753.0	753.0	753.1	0.1
K	12.92	280	804	4.4	755.1	755.1	755.1	0.0
L	12.99	250	937	3.7	757.3	757.3	757.3	0.0
M	13.09	700	2503	1.4	757.9	757.9	757.9	0.0
N	13.25	566	2310	1.5	758.1	758.1	758.1	0.0
O	13.42	350	1073	3.3	758.5	758.5	758.6	0.1
P	13.59	605	1622	2.2	760.4	760.4	760.5	0.1
Q	13.70	280	1260	2.8	761.3	761.3	761.4	0.1
R	13.82	200	1231	2.8	762.7	762.7	762.8	0.1
S	14.10	412	2360	1.3	767.6	767.6	767.6	0.1
T	14.42	260	1306	2.3	769.0	769.0	769.1	0.1
U	14.62	545	1850	1.6	770.1	770.1	770.2	0.1
V	14.99	635	1212	2.5	773.4	773.4	773.4	0.0
W	15.15	425	1260	1.8	774.9	774.9	775.0	0.1
X	15.34	325	860	2.7	776.7	776.7	776.8	0.1
Y	15.75	470	1647	1.4	783.6	783.6	783.6	0.0
Z	15.89	495	1016	2.3	784.4	784.4	784.5	0.1

[1]MILES ABOVE MOUTH

REVISED: 6/3/88

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOODWAY DATA

EAST FORK WHITE LICK CREEK

BEST COPY AVAILABLE

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC.)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET)
EAST FORK WHITE LICK CREEK								
AA	16.06	350	711	3.2	786.4	786.4	786.4	0.0
AB	16.22	270	769	2.7	790.4	790.4	790.5	0.1
AC	16.46	355	980	2.2	794.1	794.1	794.2	0.1
AD	16.82	482	1930	1.1	799.1	799.1	799.2	0.1
AE	17.08	140	756	2.8	801.9	801.9	801.9	0.0
PLEASANT RUN CREEK								
A	2.05	807	1211	5.5	667.5	667.5	667.6	0.1
B	2.10	522	3001	2.2	669.2	669.2	669.3	0.1
C	2.40	576	3430	2.0	674.0	674.0	674.0	0.0
D	2.50	596	2849	2.4	674.2	674.2	674.2	0.0
E	2.70	453	2076	3.2	674.7	674.7	674.7	0.0
F	2.83	508	2733	2.3	677.0	677.0	677.0	0.0

[1]MILES ABOVE MOUTH

REVISED: 6/3/88

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOODWAY DATA

EAST FORK WHITE LICK CREEK—PLEASANT RUN CREEK

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FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC.)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET)
NEELD DITCH								
A	0.06	40	196	9.7	692.7	692.7	692.8	0.1
B	0.20	135	548	3.5	697.5	697.5	697.5	0.0
c	0.39	304	1033	1.8	700.5	700.5	700.5	0.0
D	0.56	60	215	8.8	704.9	704.9	704.9	0.0
E	0.76	197	641	3.0	713.8	713.8	713.8	0.0
F	1.00	110	608	3.1	717.4	717.4	717.4	0.0
G	1.15	123	532	3.6	719.3	719.3	719.3	0.0
H	1.43	130	828	1.9	727.0	727.0	727.0	0.0
I	1.55	150	1000	1.6	730.6	730.6	730.6	0.0
J	1.73	150	1259	1.2	735.0	735.0	735.0	0.0
K	1.94	115	612	1.8	735.2	735.2	735.2	0.0
L	2.16	125	319	3.4	741.5	741.5	741.5	0.0
M	2.33	125	513	2.1	745.4	745.4	745.4	0.0
N	2.46	125	284	3.9	746.5	746.5	746.5	0.0
O	2.57	125	297	3.7	749.1	749.1	749.1	0.0

[1]FEET ABOVE MOUTH

REVISED: 6/3/88

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOODWAY DATA

NEELD DITCH

BEST COPY AVAILABLE

5.1 Reach Determinations

Reaches are defined as lengths of watercourses having relatively the same flood hazard, based on the average weighted difference in water-surface elevations between the 10- and 100-year floods. This difference does not have a variation greater than that indicated in the following table for more than 20 per cent of the reach.

Average Difference Between 10- and 100-year Floods	Variation
Less than 2 feet	0.5 foot
2 to 7 feet	1.0 foot
7.1 to 12 feet	2.0 feet
More than 12 feet	3.0 feet

The locations of the reaches determined for the City of Indianapolis are shown on the Flood Profiles and are summarized in Table 5, Flood Insurance Zone Data.

5.2 Flood Hazard Factors

The Flood Hazard Factor (FHF) is used to establish relationships between depth and frequency of flooding in any reach. This relationship is then used with depth-damage relationships for various classes of structures to establish actuarial insurance rate tables.

The FHF for a reach is the average weighted difference between the 10- and 100-year flood water-surface elevations expressed to the nearest 0.5 foot, and shown as a 3-digit code. For example, if the difference between water-surface elevations of the 10- and 100-year floods is 0.7 foot, the FHF is 005; if the difference is 1.4 feet, the FHF is 015; if the difference is 5.0 feet, the FHF is 050. When the difference between the 10- and 100-year flood water-surface elevations is greater than 10.0 feet, accuracy for the FHF is to the nearest foot.

5.3 Flood Insurance Zones

After the determination of reaches and their respective FHFs, the entire incorporated area of the City of Indianapolis was divided into zones, each having a specific flood potential or hazard. Each zone was assigned one of the following flood insurance zone designations:

Zone A: Special Flood Hazard Areas inundated by the 100-year flood, determined by approximate methods; no base flood elevations are shown or FHFs determined.

Zones A1-A13: Special Flood Hazard Areas inundated by the 100-year flood, determined by detailed methods; base flood elevations are shown, and zones subdivided according to FHF.

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Zone B: Areas between the Special Flood Hazard Area and the limits of the 500-year flood, including areas of the 500-year flood plain that are protected from the 100-year flood by dike, levee, or other water control structure; or areas subject to certain types of 100-year shallow flooding where depths are less than 1.0 foot; and areas subject to 100-year flooding from sources with drainage areas less than 1 square mile. Zone B is not subdivided.

Zone C: Areas of minimal flooding.

Table 5, Flood Insurance Zone Data, summarizes the flood elevation differences, FHFs, flood insurance zones, and base flood elevations for each flooding source studied in detail in the community.

5.4 Flood Insurance Rate Map Description

The Flood Insurance Rate Map for the City of Indianapolis (Marion County) including: City of Beech Grove, City of Lawrence, City of Southport and Town of Speedway is, for insurance purposes, the principal result of the Flood Insurance Study. This map (published separately) contains the official delineation of flood insurance zones and base flood elevation lines. Base flood elevation lines show the locations of the expected whole-foot water-surface elevations of the base (100-year) flood. This map is developed in accordance with the latest flood insurance map preparation guidelines published by FEMA.

6.0 OTHER STUDIES

The COE has completed flood plain information studies for the following streams in the City of Indianapolis (Marion County):

Buck Creek and Grassy Creek, June 1973;
Indian Creek, November 1974;
Lick Creek and Little Buck Creek, June 1971;
Pogues Run, Pleasant Run, and Bean Creek, September 1970;
Crooked Creek and Williams Creek, June 1970; and,
Little Eagle Creek and Tributaries (Dry Run, Dry Run Diversion, Falcon Creek, and Guion Creek), June 1971.

Any differences between the flood plain information reports and this study are due to general updating of data to reflect existing conditions, and revised frequency discharges to reflect new procedures as described in U. S. Water Resources Council Bulletin No. 17A (Reference 4).

Flood Insurance Studies have been published for the Unincorporated Areas of Hendricks County, Morgan County, Shelby County, Hancock County, Hamilton County and Boone County, Indiana (References 10-13, and 15). They are in agreement with the City of Indianapolis Flood Insurance Study.

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FLOODING SOURCE	PANEL[1]	ELEVATION DIFFERENCE[2] BETWEEN 1.0% (100-YEAR) FLOOD AND			FLOOD HAZARD FACTOR	ZONE	BASE FLOOD ELEVATION[3] (NGVD)
		10% (10-YEAR)	2% (50-YEAR)	0.2% (500-YEAR)			
WHITE RIVER							
REACH 1	0015,0030,0035 0050,0070,0075 0090	–4.2	–1.2	2.2	040	A8	VARIES–SEE MAP
BAILEY CREEK							
REACH 1	0035	–1.0	–0.4	1.2	010	A2	VARIES–SEE MAP
BEECH CREEK							
REACH 1	0075	–1.7	–0.5	0.9	015	A3	VARIES–SEE MAP
BUFFALO CREEK							
REACH 1	0090,0095	–1.6	–0.4	0.8	015	A3	VARIES–SEE MAP
REACH 2	0095	–2.1	–0.8	1.0	020	A4	VARIES–SEE MAP
REACH 3	0095	–3.1	–0.9	0.9	030	A6	VARIES–SEE MAP
REACH 4	0095	–1.2	–0.3	0.6	010	A2	VARIES–SEE MAP
REACH 5	0095	–0.6	–0.2	0.4	005	A1	VARIES–SEE MAP

[1]FLOOD INSURANCE RATE MAP PANEL
[2]WEIGHTED AVERAGE
[3]ROUNDED TO NEAREST FOOT

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN

(MARION CO.)

FLOOD INSURANCE ZONE DATA

WHITE RIVER - BAILEY CREEK - BEECH CREEK - BUFFALO CREEK

BEST COPY AVAILABLE

FLOODING SOURCE	PANEL[1]	ELEVATION DIFFERENCE[2] BETWEEN 1.0% (100-YEAR) FLOOD AND			FLOOD HAZARD FACTOR	ZONE	BASE FLOOD ELEVATION[3] (NGVD)
		10% (10-YEAR)	2% (50-YEAR)	0.2% (500-YEAR)			
BEAN CREEK							
REACH 1	0075	−2.0	−0.6	1.5	020	A4	VARIES–SEE MAP
REACH 2	0075	−1.2	−0.4	0.9	010	A2	VARIES–SEE MAP
REACH 3	0075	−1.9	−0.3	0.7	020	A4	VARIES–SEE MAP
REACH 4	0075	−3.0	−1.8	2.0	030	A6	VARIES–SEE MAP
REACH 5	0075	−1.4	−0.4	0.7	015	A3	VARIES–SEE MAP
REACH 6	0055,0075	−2.0	−0.5	0.8	020	A4	VARIES–SEE MAP
BUCK CREEK							
REACH 1	0060,0080,0100	−2.4	−0.7	2.2	025	A5	VARIES–SEE MAP
LITTLE BUCK CREEK							
REACH 1	0075,0080,0090 0095,0100	−1.9	−0.6	1.1	020	A4	VARIES–SEE MAP
CARMEL CREEK							
REACH 1	0015	−0.6	−0.2	0.6	005	A1	VARIES–SEE MAP

[1]FLOOD INSURANCE RATE MAP PANEL
[2]WEIGHTED AVERAGE
[3]ROUNDED TO NEAREST FOOT

REVISED: 6/3/88

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOOD INSURANCE ZONE DATA

BEAN CREEK - BUCK CREEK - LITTLE BUCK CREEK - CARMEL CREEK

BEST COPY AVAILABLE

FLOODING SOURCE	PANEL[1]	ELEVATION DIFFERENCE[2] BETWEEN 1.0% (100-YEAR) FLOOD AND			FLOOD HAZARD FACTOR	ZONE	BASE FLOOD ELEVATION[3] (NGVD)
		10% (10-YEAR)	2% (50-YEAR)	0.2% (500-YEAR)			
CROOKED CREEK							
REACH 1	0030,0050	–5.9	–1.2	1.7	060	A12	VARIES–SEE MAP
REACH 2	0030,0050	–4.6	–1.0	0.4	045	A9	VARIES–SEE MAP
REACH 3	0030	–2.8	–0.8	0.5	030	A6	VARIES–SEE MAP
REACH 4	0030	–1.1	–0.5	0.8	010	A2	VARIES–SEE MAP
REACH 5	0030	–2.6	–0.9	1.6	025	A5	VARIES–SEE MAP
REACH 6	0030	–4.6	–2.3	1.5	045	A9	VARIES–SEE MAP
REACH 7	0030	–2.6	–0.8	1.4	025	A5	VARIES–SEE MAP
REACH 8	0030	–4.8	–1.1	1.2	050	A10	VARIES–SEE MAP
REACH 9	0030	–2.3	–0.7	1.2	025	A5	VARIES–SEE MAP
REACH 10	0030	–4.0	–1.1	1.7	040	A8	VARIES–SEE MAP
REACH 11	0010,0030	–2.4	–0.7	1.2	025	A5	VARIES–SEE MAP
REACH 12	0010	–4.3	–2.1	1.2	045	A9	VARIES–SEE MAP
REACH 13	0010	–2.0	–0.8	0.9	020	A4	VARIES–SEE MAP
REACH 14	0010	–0.9	–0.3	0.5	010	A2	VARIES–SEE MAP
REACH 15	0010	–2.4	–1.1	2.8	025	A5	VARIES–SEE MAP
REACH 16	0010	–0.9	–0.3	0.6	010	A2	VARIES–SEE MAP
CHURCHMAN CREEK							
REACH 1	0075	–1.3	–0.3	0.6	015	A3	VARIES–SEE MAP
DELAWARE CREEK							
REACH 1	0010	–2.1	–0.7	1.6	020	A4	VARIES–SEE MAP

[1] FLOOD INSURANCE RATE MAP PANEL
[2] WEIGHTED AVERAGE
[3] ROUNDED TO NEAREST FOOT

REVISED: 6/3/88

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOOD INSURANCE ZONE DATA

CROOKED CREEK - CHURCHMAN CREEK - DELAWARE CREEK

BEST COPY AVAILABLE

FLOODING SOURCE	PANEL[1]	ELEVATION DIFFERENCE[2] BETWEEN 1.0% (100-YEAR) FLOOD AND			FLOOD HAZARD FACTOR	ZONE	BASE FLOOD ELEVATION[3] (NGVD)
		10% (10-YEAR)	2% (50-YEAR)	0.2% (500-YEAR)			
DEVON CREEK							
REACH 1	0035	–2.4	–0.7	1.2	025	A5	VARIES–SEE MAP
REACH 2	0035	–1.8	–0.6	1.0	020	A4	VARIES–SEE MAP
EAGLE CREEK							
REACH 1	0025,0045 0050,0070	–0.1	–0.1	6.0	005	A1	VARIES–SEE MAP
LITTLE EAGLE CREEK							
REACH 1	0050	–4.8	–1.5	2.6	050	A10	VARIES–SEE MAP
REACH 2	0050	–3.9	–1.2	1.7	040	A8	VARIES–SEE MAP
REACH 3	0050	–6.5	–2.1	1.9	065	A13	VARIES–SEE MAP
REACH 4	0050	–4.0	–1.4	1.8	040	A8	VARIES–SEE MAP
REACH 5	0030,0050	–2.9	–1.5	[illegible]	030	A6	VARIES–SEE MAP
REACH 6	0030	–2.3	–0.8	2.0	025	A5	VARIES–SEE MAP
REACH 7	0030	–3.4	–1.2	3.1	035	A7	VARIES–SEE MAP
REACH 8	0030	–1.6	–0.6	1.4	015	A3	VARIES–SEE MAP
REACH 9	0030	–4.0	–1.8	2.2	040	A8	VARIES–SEE MAP
REACH 10	0030	–2.2	–0.6	1.1	020	A4	VARIES–SEE MAP
REACH 11	0030	–1.0	–0.3	0.4	010	A2	VARIES–SEE MAP
REACH 12	0030	–1.6	–0.5	1.8	015	A3	VARIES–SEE MAP
REACH 13	0010,0030	–2.2	–0.6	0.1	020	A4	VARIES–SEE MAP
REACH 14	0010,0030	–2.3	–1.0	0.2	025	A5	VARIES–SEE MAP
REACH 15	0010	–1.0	–0.2	0.2	010	A2	VARIES–SEE MAP

[1]FLOOD INSURANCE RATE MAP PANEL
[2]WEIGHTED AVERAGE
[3]ROUNDED TO NEAREST FOOT

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOOD INSURANCE ZONE DATA

DEVON CREEK - EAGLE CREEK - LITTLE EAGLE CREEK

BEST COPY AVAILABLE

FLOODING SOURCE	PANEL[1]	ELEVATION DIFFERENCE[2] BETWEEN 1.0% (100-YEAR) FLOOD AND			FLOOD HAZARD FACTOR	ZONE	BASE FLOOD ELEVATION[3] (NGVD)
		10% (10-YEAR)	2% (50-YEAR)	0.2% (500-YEAR)			
FALCON CREEK							
REACH 1	0030,0050	−2.0	−0.6	1.0	020	A4	VARIES–SEE MAP
REACH 2	0030	−1.1	−0.3	0.6	010	A2	VARIES–SEE MAP
FALL CREEK							
REACH 1	0035,0050,0055	−3.4	−1.1	2.0	035	A7	VARIES–SEE MAP
REACH 2	0020,0035,0040	−2.4	−0.7	1.2	025	A5	VARIES–SEE MAP
FISHER CREEK							
REACH 1	0060,0080	−3.3	−1.6	3.7	035	A7	VARIES–SEE MAP
GUION CREEK							
REACH 1	0030	−1.4	−0.4	0.8	015	A3	VARIES–SEE MAP
REACH 2	0030	−4.6	−1.0	0.8	045	A9	VARIES–SEE MAP
REACH 3	0030	−2.9	−0.9	0.8	030	A6	VARIES–SEE MAP
REACH 4	0030	−1.4	−0.5	1.0	015	A3	VARIES–SEE MAP
REACH 5	0030	−0.5	−0.2	0.6	005	A1	VARIES–SEE MAP
GRASSY CREEK							
REACH 1	0060,0080	−2.0	−0.7	1.1	020	A4	VARIES–SEE MAP
REACH 2	0060	−1.3	−0.4	0.7	015	A3	VARIES–SEE MAP
REACH 3	0060	−2.0	−0.8	1.5	020	A4	VARIES–SEE MAP
REACH 4	0060	−1.0	−0.3	0.7	010	A2	VARIES–SEE MAP

[1]FLOOD INSURANCE RATE MAP PANEL
[2]WEIGHTED AVERAGE
[3]ROUNDED TO NEAREST FOOT

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOOD INSURANCE ZONE DATA

FALCON CREEK - FALL CREEK - FISHER CREEK - GUION CREEK - GRASSY CREEK

BEST COPY AVAILABLE

FLOODING SOURCE	PANEL[1]	ELEVATION DIFFERENCE[2] BETWEEN 1.0% (100-YEAR) FLOOD AND			FLOOD HAZARD FACTOR	ZONE	BASE FLOOD ELEVATION[3] (NGVD)
		10% (10-YEAR)	2% (50-YEAR)	0.2% (500-YEAR)			
INDIAN CREEK							
REACH 1	0020,0040	−2.2	−0.6	1.2	020	A4	VARIES–SEE MAP
LICK CREEK							
REACH 1	0070,0075	−2.3	−0.6	1.4	025	A5	VARIES–SEE MAP
REACH 2	0075	−4.8	−1.6	2.6	050	A10	VARIES–SEE MAP
REACH 3	0075	−2.5	−0.7	2.3	025	A5	VARIES–SEE MAP
REACH 4	0075	−2.2	−0.6	1.3	020	A4	VARIES–SEE MAP
REACH 5	0055,0060,0075	−2.8	−0.9	2.2	030	A6	VARIES–SEE MAP
REACH 6	0060	−1.4	−0.6	2.2	015	A3	VARIES–SEE MAP
REACH 7	0060	−2.9	−0.9	1.5	030	A6	VARIES–SEE MAP
REACH 8	0060	−0.9	−0.2	0.5	010	A2	VARIES–SEE MAP
MUD CREEK							
REACH 1	0020,0040	−1.6	−0.5	0.6	015	A3	VARIES–SEE MAP
McFARLAND CREEK							
REACH 1	0075	−3.8	−0.6	0.8	040	A8	VARIES–SEE MAP
REACH 2	0075	−1.7	−0.4	0.8	015	A3	VARIES–SEE MAP
REACH 3	0075	−1.0	−0.3	0.9	010	A2	VARIES–SEE MAP

[1]FLOOD INSURANCE RATE MAP PANEL
[2]WEIGHTED AVERAGE
[3]ROUNDED TO NEAREST FOOT

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN

(MARION CO.)

FLOOD INSURANCE ZONE DATA

INDIAN CREEK - LICK CREEK - MUD CREEK - McFARLAND CREEK

BEST COPY AVAILABLE

FLOODING SOURCE	PANEL[1]	ELEVATION DIFFERENCE[2] BETWEEN 1.0% (100-YEAR) FLOOD AND			FLOOD HAZARD FACTOR	ZONE	BASE FLOOD ELEVATION[3] (NGVD)
		10% (10-YEAR)	2% (50-YEAR)	0.2% (500-YEAR)			
OIL CREEK							
REACH 1	0010	−1.1	−0.4	0.5	010	A2	VARIES–SEE MAP
STRANGE CREEK							
REACH 1	0035	−1.0	−0.2	0.4	010	A2	VARIES–SEE MAP
WILLIAMS CREEK							
REACH 1	0015	−4.5	−1.8	2.5	045	A9	VARIES–SEE MAP
REACH 2	0010,0015	−2.5	−1.1	1.1	025	A5	VARIES–SEE MAP
CAMP BRANCH							
REACH 1	0015	−1.0	−0.3	0.4	010	A2	VARIES–SEE MAP
PAYNE BRANCH							
REACH 1	0010	−2.5	−0.9	2.0	025	A5	VARIES–SEE MAP
REACH 2	0010	−1.0	−0.3	0.5	010	A2	VARIES–SEE MAP

[1]FLOOD INSURANCE RATE MAP PANEL
[2]WEIGHTED AVERAGE
[3]ROUNDED TO NEAREST FOOT

REVISED: 6/3/88

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOOD INSURANCE ZONE DATA

OIL CREEK - STRANGE CREEK - WILLIAMS CREEK - CAMP BRANCH - PAYNE BRANCH

BEST COPY AVAILABLE

FLOODING SOURCE	PANEL[1]	ELEVATION DIFFERENCE[2] BETWEEN 1.0% (100-YEAR) FLOOD AND			FLOOD HAZARD FACTOR	ZONE	BASE FLOOD ELEVATION[3] (NGVD)
		10% (10-YEAR)	2% (50-YEAR)	0.2% (500-YEAR)			
HOWLAND DITCH							
REACH 1	0015	−1.5	−0.5	1.4	015	A3	VARIES–SEE MAP
REACH 2	0015	−1.0	−0.3	0.4	010	A2	VARIES–SEE MAP
DRY RUN							
REACH 1	0050	−3.2	−1.2	2.2	030	A6	VARIES–SEE MAP
REACH 2	0050	−5.6	−2.4	1.3	055	A11	VARIES–SEE MAP
REACH 3	0050	−3.3	−1.7	1.1	035	A7	VARIES–SEE MAP
REACH 4	0030,0050	−1.6	−0.5	0.8	015	A3	VARIES–SEE MAP
DRY RUN DIVERSION DITCH							
REACH 1	0050	−3.6	−1.2	1.4	035	A7	VARIES–SEE MAP
REACH 2	0050	−3.2	−1.1	1.5	030	A6	VARIES–SEE MAP
REACH 3	0050	−1.2	−0.3	0.7	010	A2	VARIES–SEE MAP
SLOAN DITCH							
REACH 1	0075	−1.3	−0.3	0.6	015	A3	VARIES–SEE MAP
REACH 2	0075,0080	−0.7	−0.1	0.2	005	A1	VARIES–SEE MAP

[1]FLOOD INSURANCE RATE MAP PANEL
[2]WEIGHTED AVERAGE
[3]ROUNDED TO NEAREST FOOT

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOOD INSURANCE ZONE DATA

HOWLAND DITCH - DRY RUN - DRY RUN DIVERSION DITCH - SLOAN DITCH

BEST COPY AVAILABLE

FLOODING SOURCE	PANEL[1]	ELEVATION DIFFERENCE[2] BETWEEN 1.0% (100-YEAR) FLOOD AND			FLOOD HAZARD FACTOR	ZONE	BASE FLOOD ELEVATION[3] (NGVD)
		10% (10-YEAR)	2% (50-YEAR)	0.2% (500-YEAR)			
PLEASANT RUN							
REACH 1	0070,0075	−3.8	−1.0	1.8	040	A8	VARIES–SEE MAP
REACH 2	0055,0075	−5.5	−2.9	2.8	055	A11	VARIES–SEE MAP
REACH 3	0055	−2.3	−0.6	1.3	025	A5	VARIES–SEE MAP
REACH 4	0055	−3.7	−2.0	1.8	035	A7	VARIES–SEE MAP
REACH 5	0055	−4.9	−2.5	1.1	050	A10	VARIES–SEE MAP
REACH 6	0055	−2.4	−0.7	1.0	025	A5	VARIES–SEE MAP
REACH 7	0055	−2.2	−0.5	0.9	020	A4	VARIES–SEE MAP
REACH 8	0055,0060	−1.5	−0.4	1.0	015	A3	VARIES–SEE MAP
REACH 9	0060	−0.9	−0.2	0.5	010	A2	VARIES–SEE MAP
POGUES RUN							
REACH 1	0055	−6.5	−2.2	2.6	065	A13	VARIES–SEE MAP
REACH 2	0055	−2.7	−1.1	2.2	025	A5	VARIES–SEE MAP
REACH 3	0055	−1.9	−0.6	1.1	020	A4	VARIES–SEE MAP
REACH 4	0055	−3.1	−0.8	2.0	030	A6	VARIES–SEE MAP
REACH 5	0035,0055	−1.4	−0.4	0.9	015	A3	VARIES–SEE MAP
REACH 6	0035,0055	−4.8	−3.2	2.7	050	A10	VARIES–SEE MAP
REACH 7	0035	−1.7	−0.5	1.1	015	A3	VARIES–SEE MAP

[1]FLOOD INSURANCE RATE MAP PANEL
[2]WEIGHTED AVERAGE
[3]ROUNDED TO NEAREST FOOT

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN

(MARION CO.)

FLOOD INSURANCE ZONE DATA

PLEASANT RUN - POGUES RUN

BEST COPY AVAILABLE

FLOODING SOURCE	PANEL[1]	ELEVATION DIFFERENCE[2] BETWEEN 1.0% (100-YEAR) FLOOD AND			FLOOD HAZARD FACTOR	ZONE	BASE FLOOD ELEVATION[3] (FEET NGVD)
		10% (10-YEAR)	2% (50-YEAR)	0.2% (500-YEAR)			
STATE DITCH							
REACH 1	0070	−2.0	−0.5	2.1	020	A4	VARIES—SEE MAP
REACH 2	0070	−3.5	−0.8	2.1	035	A7	VARIES—SEE MAP
REACH 3	0070	−2.3	−0.6	1.2	025	A5	VARIES—SEE MAP
REACH 4	0070	−2.8	−0.9	1.4	030	A6	VARIES—SEE MAP
REACH 5	0070	−1.9	−0.6	1.4	020	A4	VARIES—SEE MAP
SEERLEY CREEK							
REACH 1	0070	−1.9	−0.7	1.0	020	A4	VARIES—SEE MAP
MARS DITCH							
REACH 1	0070	−2.2	−0.9	1.7	020	A4	VARIES—SEE MAP
DREXEL RUN							
REACH 1	0070	−2.2	−0.9	1.7	020	A4	VARIES—SEE MAP
EAST FORK WHITE LICK CREEK							
REACH 1	0065,0045	−1.5	−0.5	1.1	015	A3	VARIES—SEE MAP
REACH 2	0045	−1.0	−0.3	0.6	010	A2	VARIES—SEE MAP

[1]FLOOD INSURANCE RATE MAP PANEL
[2]WEIGHTED AVERAGE
[3]ROUNDED TO NEAREST FOOT

REVISED: 6/3/88

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOOD INSURANCE ZONE DATA

STATE DITCH—SEERLEY CREEK—MARS DITCH/DREXEL RUN—EAST FORK WHITE LICK CREEK

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FLOODING SOURCE	PANEL[1]	ELEVATION DIFFERENCE[2] BETWEEN 1.0% (100-YEAR) FLOOD AND			FLOOD HAZARD FACTOR	ZONE	BASE FLOOD ELEVATION[3] (FEET NGVD)
		10% (10-YEAR)	2% (50-YEAR)	0.2% (500-YEAR)			
PLEASANT RUN CREEK							
REACH 1	0090	−1.2	−0.4	0.6	010	A2	VARIES—SEE MAP
REACH 2	0090	−2.3	−0.9	1.2	025	A5	VARIES—SEE MAP
NEELD DITCH							
REACH 1	0050	0.5	0.5	5.0	005	A1	VARIES—SEE MAP
REACH 2	0050	2.4	0.9	1.7	025	A5	VARIES—SEE MAP
REACH 3	0050	1.3	0.5	0.7	015	A3	VARIES—SEE MAP
REACH 4	0050	2.0	1.0	0.6	020	A4	VARIES—SEE MAP
REACH 5	0050	3.9	1.1	1.6	040	A8	VARIES—SEE MAP
REACH 6	0050	1.0	0.4	0.4	010	A2	VARIES—SEE MAP
REACH 7	0050	2.6	1.0	0.4	030	A6	VARIES—SEE MAP

[1]FLOOD INSURANCE RATE MAP PANEL
[2]WEIGHTED AVERAGE
[3]ROUNDED TO NEAREST FOOT

REVISED: 6/3/88

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF INDIANAPOLIS, IN
(MARION CO.)

FLOOD INSURANCE ZONE DATA

PLEASANT RUN CREEK—NEELD DITCH

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A Flood Hazard Boundary Map has been published for the community (Reference 16). The differences between the Flood Hazard Boundary Map and this study are justified due to the more detailed nature of this Flood Insurance Study.

This report either supersedes or is compatible with all previous studies published on streams studied in this report and should be considered authoritative for the purposes of the National Flood Insurance Program.

7.0 LOCATION OF DATA

Information concerning the pertinent data used in preparation of this study can be obtained by contacting the Natural and Technological Hazards Division, Federal Emergency Management Agency, 300 South Wacker Drive, (24th Floor), Chicago, Illinois 60606.

8.0 REFERENCES AND BIBLIOGRAPHY

1. U.S. Department of Commerce, Bureau of the Census, 1980 Census of Population, Indiana, Washington, D.C., February 1982.

2. U.S. Army Corps of Engineers, Louisville District, Flood Plain Information, Indian Creek, Marion County, Indiana, November 1974.

3. U.S. Department of Agriculture, Soil Survey of Marion County, Indiana, September 1978.

4. U.S. Water Resources Council, Bulletin No. 17A, Guidelines for Determining Flood Flow Frequencies, June 1977.

5. U.S. Army Corps of Engineers, Hydrologic Engineering Center, HEC-2, Water-Surface Profiles, Generalized Computer Program, Davis, California, October 1973.

6. ————, Hydrologic Engineering Center, HEC-1, Flood Hydrograph Package, Computer Program, Davis, California, 1973.

7. U.S. Geological Survey, 7.5 Minute Series Topographic Maps, Scale 1:24000, Contour Interval 10 feet: Action (1962), Beech Grove (1967), Bridgeport (1966), Carmel (1967), Clermont (1967), Cumberland (1962), Fishers (1967), Indianapolis East (1967), Indianapolis West (1967), Maywood (1967), McCordsville (1962), and Zionsville (1966).

8. State of Indiana, Special Flood Plain Mapping, Scale 1:2400, Contour Interval 2 feet, Marion and Hamilton Counties, Indiana, 1970.

9. ————, Department of Natural Resources, Policy Guidelines of 1974.

10. Federal Emergency Management Agency, Federal Insurance Administration, Flood Insurance Study, County of Hendricks, Unincorporated Areas, Indiana, September 1980.

11. ————, Flood Insurance Study, County of Morgan, Unincorporated Areas, Indiana, December 1980.

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12. Federal Emergency Management Agency, Flood Insurance Study, County of Shelby, Unincorporated Areas, Indiana, October 1982.

13. ---------, Flood Insurance Study, County of Hancock, Unincorporated Areas, Indiana, October 1982.

14. ---------, Flood Insurance Study, County of Hamilton, Unincorporated Areas, Indiana, (in progress), August 1983.

15. ---------, Flood Insurance Study, County of Boone, Unincorporated Areas, Indiana, September 1982.

16. U.S. Department of Housing and Urban Development, Federal Insurance Administration, Flood Hazard Boundary Map, City of Indianapolis, Indiana, September 1978.

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9.0 REVISIONS DESCRIPTION

This section has been added to provide information regarding significant revisions made since the original Flood Insurance Study was printed. Future revisions may be made that do not result in the republishing of the Flood Insurance Study report. To assure that any user is aware of all revisions, it is advisable to contact the community repository of flood hazard data located at 2412 City County Building, Indianapolis, Indiana.

9.1 First Revision (Revised June 3, 1988)

a. Acknowledgments

The hydrologic and hydraulic analyses for this Revisions Description were performed by the Indiana Department of Natural Resources (IDNR), Division of Water. The Federal Emergency Management Agency (FEMA) reviewed and accepted these data for purposes of this revision.

b. Scope

The stream previously labeled White Lick Creek, located in the western portion of the City of Indianapolis, has been relabeled as East Fork White Lick Creek. The stream previously labeled Pleasant Run located in the southern part of the City of Indianapolis, has been relabeled as Pleasant Run Creek.

The IDNR prepared hydraulic reanalyses for several streams within the City of Indianapolis. Bean Creek was revised from just upstream of Interstate 65 to just downstream of Villa Avenue, and from about 450 feet upstream of Raymond Street to just downstream of the private drive near Emerson Avenue. Little Buck Creek was revised from just downstream of Southport Road to about 840 feet upstream of Interstate 65. Crooked Creek was revised from about 3,800 feet downstream of 86th Street to about 450 feet upstream of Interstate 465. Little Eagle Creek was revised from the mouth to about 1,600 feet downstream of Cossel Road. Fall Creek was revised from about 850 feet downstream of 79th Street to the limit of detailed study at Geist Reservoir Dam. The entire reach of Oil Creek was revised and Williams Creek was revised from about 2,000 feet upstream of Spring Mill Road to about 1,900 feet upstream of 86th Street.

Detailed flooding information was added along several streams based on new hydraulic analyses prepared by the IDNR. State Ditch was revised from its mouth to approximately 400 feet upstream of Bradbury Avenue. Seerley Creek was revised from its confluence with State Ditch to approximately 0.66 mile upstream of Lynhurst Avenue. Mars Ditch was revised from its confluence with State Ditch to the confluence of Drexel Run. Drexel Run was revised for approximately 1,300 feet upstream of its confluence with Mars Ditch. Howland Ditch was revised from just upstream of Allisonville Road to Interstate 465.

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East Fork White Lick Creek was revised for its entire length through the City of Indianapolis. Pleasant Run Creek was revised from approximately 0.38 mile downstream of State Route 37 to County Line Road. Neeld Ditch was revised from its confluence with Eagle Creek to Mickley Avenue.

The IDNR also performed a revised hydrologic analysis for Crooked Creek from the private drive located approximately 3,750 feet downstream of 86th Street to about 450 feet upstream of Interstate 465.

The Special Flood Hazard Areas were redelineated along several streams based on flood depths determined by the Regulations Branch of the IDNR. Ream Creek was revised in vicinity of Rosewood Lane. Dry Branch was revised upstream of Oaklandon Road. Devon Creek was revised at various places upstream of Rockville Avenue. Meyers Ditch was revised from its confluence with Dry Run Diversion Ditch to just upstream of Allison Avenue. Bean Creek was revised upstream of the limit of detailed flooding. Thompson Ditch was revised in the vicinity of Hartford Avenue and upstream of the confluence of Julia Creek. Julia Creek and Sterling Run were revised along their entire reach. Dollar Hyde Creek was revised at various places upstream of Mann Road. Highland Creek was revised upstream of Brill Road. Big Run Creek was revised upstream of Wanamaker Drive. Orme Ditch was revised in the vicinity of Harding Street. Pleasant Run Creek was revised in the vicinity of Ralston Road. Fountain Creek was revised downstream of Interstate 31. Wildcat Brook was revised upstream of Hickory Road. Flat Branch was revised at various places along its entire reach.

Special Flood Hazard Areas were redelineated along Fishback Creek upstream of 86th Street in the vicinity of Lafayette Road based on June 1957 high-water marks at 82nd and 86th Street bridges.

Special Flood Hazard Areas were redelineated along Fishback Creek in the vicinity of Wilson Road and Fishback Road between river miles 1.00 and 1.25 based on U.S. Geological Survey quadrangle maps for Zionsville, Indiana (Reference 1).

Sections of the floodplains for the following waterways were redelineated based on the "Marion County Mapping" (Reference 2): White River, Bailey Creek, Buffalo Creek, Bean Creek, Buck Creek, Little Buck Creek, Carmel Creek, Churchman Creek, Crooked Creek, Eagle Creek, Falcon Creek, Fall Creek, Guion Creek, Grassy Creek, Hausien Ditch, Indian Creek, Lick Creek, Little Eagle Creek, McFarland Creek, Mud Creek, Strange Creek, Williams Creek, Howland Ditch, Dry Run, Dry Run Diversion Ditch, Pleasant Run, Pogues Run, and Sloan Ditch.

The IDNR reapproximated the flood elevations for Hunter Mitthoefer Ditch, Orme Ditch, Bells Run, and Farley Creek. The Special Flood Hazard Area was redelineated based on the IDNR estimate of the flood elevation.

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At the request of the IDNR, a floodway was added to Lowman Creek from its confluence to the limit of detailed flooding, approximately 1,600 feet in length, and the floodway widths for the White River and Eagle Creek were changed between several cross sections. The floodway in the vicinity of 71st Street (between cross sections BK and BL) along Little Eagle Creek was revised to present a smooth transition between the two cross sections. The floodway upstream of Dandy Trail (between cross sections P and Q) along Eagle Creek was revised based on the "Marion County Mapping" (Reference 2).

Crooked Creek was revised to show the manmade lake west of Clemson Street. The floodplain and floodway were revised to be coincident with the shoreline of the lake.

The Special Flood Hazard Area for portions of the following waterways were removed because the drainage area for each is less than 1 square mile: Alverna Creek upstream of 86th Street; Bailey Creek upstream of Olney Street; Holly Creek upstream of 80th Street; Lynn Creek from about 1,700 feet upstream of Edgehill Street to Lyndhurst Drive; Hunter Mitthoefer Ditch upstream of Mitthoefer Road; Orme Ditch south of Stop 11 Road; the entire floodplain of the Unnamed Tributary to Little Eagle Creek between Interstate 65 and Georgetown Road; the upstream reach of an unnamed tributary to Fishback Creek in the vicinity of Wilson Road; and the entire floodplain for Lincoln Creek. FEMA generally considers that drainage areas less than 1 square mile should be addressed as a local drainage problem and need not be included in a Special Flood Hazard Area. Therefore, these areas have been removed from the Special Flood Hazard Area and the zone designation has been changed from Zone A to Zone B.

Streets and street names were added in the vicinity of East Fork White Lick Creek based on the City of Indianapolis zoning maps. Ritter Avenue was removed south of 38th Street and several streets were removed from the Chevrolet Plant parking lot based on the "Marion County Mapping" (Reference 2).

500-year flooding along Eagle Creek was removed in the area west of Interstate 74 and south of 21st Street.

c. Hydrologic and Hydraulic Analyses

The hydrologic analysis of Crooked Creek was revised based on a drainage area-discharge graph entitled, "Ungaged Streams, Marion County - Indianapolis FIS" (Reference 3), for the reach of stream between the private drive at stream mile 9.84 to just upstream of Interstate 465. The revised discharges are summarized in Table 6, Revised Summary of Discharges. The hydrologic analyses for the other streams were not revised.

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TABLE 6 - REVISED SUMMARY OF DISCHARGES

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (SQ MILES)	PEAK DISCHARGE (CFS) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
CROOKED CREEK					
at dam	1.33	430	760	950	1,350
at 86th Street	1.75	530	930	1,180	1,650

The hydraulic analyses for Bean Creek, Little Buck Creek, Crooked Creek, Little Eagle Creek, Fall Creek, Oil Creek, Williams Creek, State Ditch, Seerley Creek, Mars Ditch/Drexel Run, Howland Ditch, East Fork White Lick Creek, Pleasant Run Creek, and Neeld Ditch were revised using the U.S. Army Corps of Engineers (COE) HEC-2 computer program (Reference 4). New cross sections were obtained using the "Marion County Mapping" (Reference 2). The new flood elevations were delineated using the same mapping.

The hydraulic analysis for Bean Creek was revised because of the removal of the Croft Street bridge, new culvert information for the Conrail, the new bridge for Sloan Avenue, and additional cross sections. Little Buck Creek was revised for two new bridges at Southport Road and channelization upstream to Interstate 65. The hydraulic model for Crooked Creek was revised because of revised discharges and new cross-sectional information. The elevations for the 10-, 50-, 100-, and 500-year floods for the dam were obtained from the COE report (Reverence 5). Fall Creek, Oil Creek, and Williams Creek were revised to reflect the inclusion of additional cross-sectional information. State Ditch, Seerley Creek, Mars Ditch/Drexel Run, Howland Ditch, East Fork White Lick Creek, Pleasant Run Creek, and Neeld Ditch were revised to reflect detailed flooding along these streams.

The IDNR determined the flood depths for several streams previously studied by approximate methods. The flood depths and the "Marion County Mapping" (Reference 2) were used to redelineate the Special Flood Hazard Areas for Ream Creek, Dry Branch, Devon Creek, Meyers Ditch, Bean Creek, Thompson Ditch, Julia Creek, Sterling Run, Dollar Hide Run Creek, Highland Creek, Big Run Creek, Orme Ditch, Pleasant Run Creek, Fountain Creek, Wildcat Brook, and Flat Branch.

d. Floodways

Floodway computations for Bean Creek, Little Buck, Crooked Creek, Little Eagle Creek, Fall Creek, Oil Creek, Williams Creek, State Ditch, Seerley Creek, Mars Ditch/Drexel Run, Howland Ditch, East

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Fork White Lick Creek, Pleasant Run Creek, and Needl Ditch were revised as a result of new hydraulic analyses. The floodways were computed on the basis of equal conveyance reduction from each side of the floodplain and engineering judgment. The results of these computations were tabulated at selected cross sections for each stream segment for which a floodway was revised and are presented in Table 4, Floodway Data. In addition, the floodways for the White River and Eagle Creek were revised based on a new interpolation between cross sections.

No floodway hydraulic analysis was performed along State Ditch upstream of Standish Drive. However, an administrative floodway was established for this area by the IDNR and the floodway delineations were based on the "Marion County Mapping" (Reference 2).

e. Other Studies

No changes were made that would affect the Flood Insurance Studies for the contiguous communities. A Flood Insurance Study is in progress for the Unincorporated Areas of Johnson County, Indiana (Reference 6) and is in agreement with this study.

f. References and Bibliography

1. U.S. Geological Survey, 7.5-Minute Series Topographic Maps, Scale 1:24000, Contour Interval 5 feet: Zionsville, Indiana, 1966, photorevised 1980.

2. Mid-States Engineering Co., Inc., Marion County Mapping, Scales 1:2400, 1:4800, 1:6000, Contour Interval 2 feet: Marion County, Indiana, 1980.

3. Indiana Department Natural Resources, Division of Water, Ungaged Streams, Marion County - Indianapolis FIS, January 1979.

4. U.S. Army Corps of Engineers, Hydrologic Engineering Center, HEC-2 Water-Surface Profiles, Generalized Computer Program, Davis, California, April 1984.

5. ————, Louisville District, Phase I Inspection Report for College Park Dam, Marion County, Indiana, August 1979.

6. Federal Emergency Management Agency, Flood Insurance Study, Johnson County, Unincorporated Areas, Indiana, in progress.

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